KAISER • HILL
COMPANY

RMRS Rocky Mountain
Remediation Services, L.L.C
. . . protecting the environment

Rocky Flats Environmental Technology Site

Radiological and Non-Radiological
Group A (Buildings 551, 662, 709, 910 and 904
Pad Tents 7-11) Characterization Package
April 1999
Revision 1

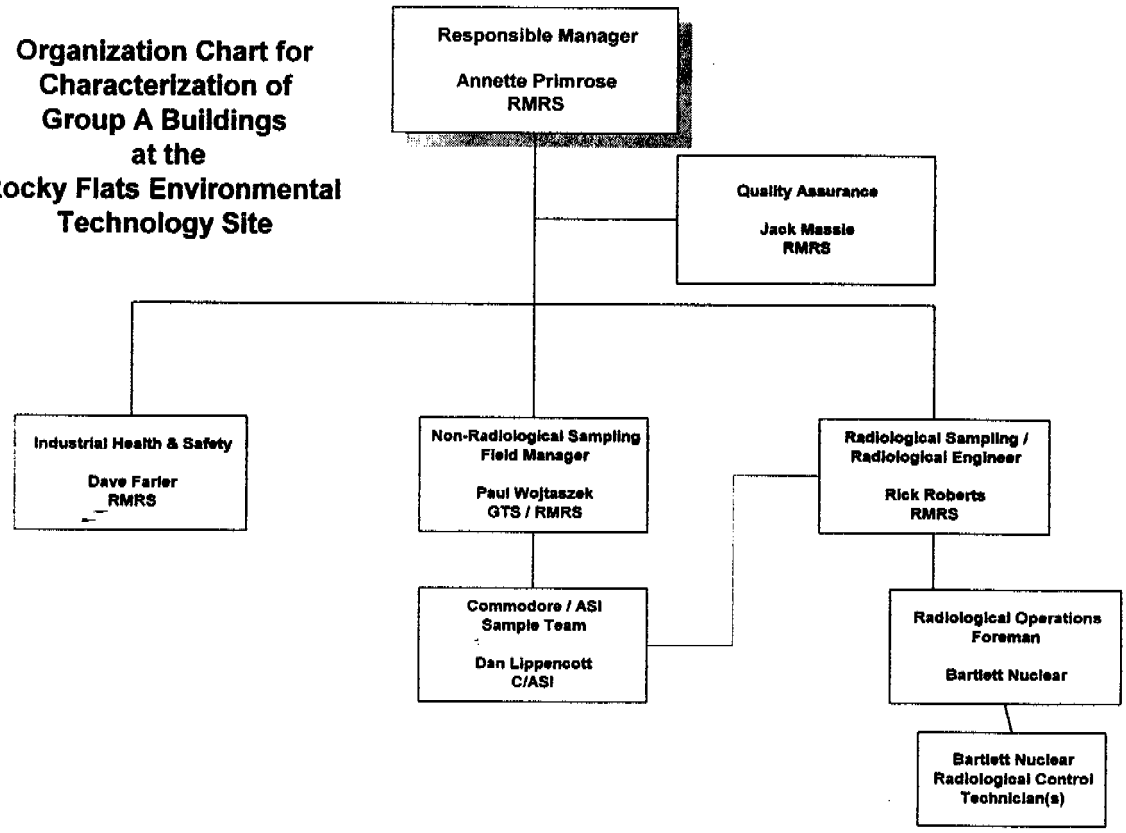
Annette Primrose — 4-21-99
Annette Primrose — Date
RMRS Responsible Manager

Approved By: — 5/3/99
Jeff Stevens — Date
Manager, D&D Advanced Planning
Kaiser-Hill Company

Y 92

ORGANIZATION CHART

Organization Chart for Characterization of Group A Buildings at the Rocky Flats Environmental Technology Site



Approved: JC Pamon

Date: 3-22-99

Survey Area: Group A	Survey Unit: N/A	Building: 551
Survey Unit Description Characterization Instruction for Group A Buildings		

CHARACTERIZATION INSTRUCTION COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☒ Asbestos, Beryllium

Special Support Requirements

Ladder, scaffolding, or man-lift. Media samplers to take paint samples from floor.

Special Safety Precautions

Fall protection is required for work above 6 ft.
Refer to Activity Hazards Analysis and 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

Obtain pre-printed, uniquely numbered sample labels from ASD or RLC project representative.

Characterization Instruction Implementation

This survey package is ready for implementation. Adequate detail is provided to allow implementation by the sampling team. DQO's and data evaluation requirements are covered in the *Decontamination and Decommissioning Characterization Protocol*, MAN-077-DDCP.

PAUL A WOJTASZEK	[redacted]	Paul A Wojtaszek	04/21/99
Preparer Printed Name		Preparer Signature	Date
MARK C. BROOKS	[redacted]	Mark C. Brooks	4-21-99
Reviewer Printed Name		Reviewer Signature	Date

Survey Area: Group A	Survey Unit: N/A	Building: 551
Survey Unit Description Characterization Instruction for Group A Buildings		

SAMPLING AND SURVEY INSTRUCTIONS

Minimum Survey & Sample Measurement Requirements		
Measurement	**Amount & Type**	**Comments**
Media samples for asbestos analysis	3 total, cores	Sampler must be a **Certified Asbestos Inspector;** Collect from homogeneous area in south end of roof.
Smear samples for beryllium analysis	4 total smears (3 plus duplicate)	Sampler must be an **industrial hygiene representative**; Collect according to attached map.
Paint chip samples for isotopic analysis	10 total	10 media samples will be taken across the floor area as directed by the rad engineer. 8 samples will be taken in the north wing and 2 samples will be taken in the south wing. During the walkdown of the area, no drains could be found in either wing and no apparent biased locations were found.

Survey Area: Group A	Survey Unit: N/A	Building: 551

Survey Unit Description
Characterization Instruction for Group A Buildings

NOTE: Media sampling of the slab (or ground floor when such is equivalent to the slab) is not within the scope of reconnaissance level characterization. The following considerations must be addressed to characterize the slab: The Chemical Dispensary will probably require at least 4 cores for VOCs/SVOCs and 4 cores for TCLP metals analysis in the floor, based on previous history. Additionally, there are two PCB concerns. The first is a hydraulic lift at Door 11D, which may contain PCB oil. The second concern is a transformer which is labelled "PCB" on the outside of the east side of the building.

NOTE: A Property / Waste Release Evaluation (P/WRE) is required for all analytical samples to be transported offsite for analysis. However, the instructions for RCTs and Radiological Operations Foreman in the following sections may be waived if it is deemed by Radiological Engineering (Arlan Moore) that no assay is required due to building history and process knowledge, per 3-PRO-141-RSP 09.01, *Unrestricted Release of Property, Material, Equipment, and Waste.*

Sampling Instructions:

1.0 Media samples for asbestos analysis

NOTE: The sampler SHALL be a Certified Asbestos Inspector.

PREREQUISITE ACTION: Prior to initiation of sampling, the Certified Asbestos Inspector SHALL examine existing inspection records and notify the project management in writing of the number and location of samples to be taken during this sampling activity.

Certified Asbestos Inspector
1. Coordinate with Bldg. 551 management for Plan of the Day (POD) control. Phone Rich Nelson, 966-3676, pager 212-3813.

2. Obtain all required documents and permits. This includes:

- For Integrated Work Control Planning (IWCP):
  - Activity Screening Form (ASF)
  - Job Hazard Analysis (JHA) including applicable Activity Hazard Assessments (AHA)
- Radiological Work Permit (RWP)
- Health and Safety Plan (HASP)

Consult with Industrial Hygiene and with Radiological Operations to determine any other permits or notifications required.

The sampler must be medically qualified and monitored for asbestos exposure within a medical survillance program, and must wear protective gloves, safety glasses, safety shoes, and modesty clothing, with additional PPE if deemed necessary by IH&S.

3. Visually verify sample location against written descriptions.

4. Confirm that the appropriate pre-numbered label exists for each sample location.

Radiological Control Technician (RCT)
5. Obtain pre-media sampling 100 cm^2 total measurements at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

Survey Area: Group A	Survey Unit: N/A	Building: 551

Survey Unit Description

Characterization Instruction for Group A Buildings

6. Obtain pre-media sampling 100 cm^2 removable swipes at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*.

7. Analyze swipes and record both results per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*. If a selected location is determined to exceed acceptable parameters, a second location must be selected. Should no radiologically acceptable location be found, a contaminated sample may be acquired and treated accordingly.

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Certified Asbestos Inspector

8. Secure a polyethylene drop cloth or a baggie below the sample area but above the floor.

9. Wet the immediate sample area with a mist of water and surfactant.

10. Select a sampling tool, such as a hammer and chisel, razor knife, "Wondermaker" or hole saw and acquire the sample, making sure to take a complete sample from the substrate. **Each sample must be a minimum of one cubic centimeter but no more than that necessary to be representative of the suspect material.** During this process, continually spray mist on the immediate surface as needed to preclude drying.

11. Place the sample in a sealable container, such as a plastic bag or vial.

Radiological Control Technician (RCT)

12. Obtain post-media sampling 100 cm^2 total measurements at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*.

13. Obtain post-media sampling 100 cm^2 removable swipes at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*.

14. Analyze swipes and record both results per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*. If the post-media sampling total measurements or swipes indicate that radiological contamination may have been removed with the sample, treat the sample as contaminated.

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Certified Asbestos Inspector

15. Seal the container and place the appropriate pre-numbered label on the container. Verify that the container is sealed.

16. Document the description and location on an Asbestos Sampling Data Sheet, place a sample label on the form, and document the the location on a blueprint or other suitable drawing.

17. Thoroughly clean the sampling tool using the mist sprayer and wipes.

18. Patch the sample area as needed.

19. Wet and wipe the sample container, drop cloth and immediate sample area. Carefully fold the drop cloth in toward the center and place it in a sealable bag, and seal the bag.

Survey Area: Group A	Survey Unit: N/A	Building: 551

Survey Unit Description

Characterization Instruction for Group A Buildings

Radiological Control Technician (RCT)

20. If removable radiological contamination was suspected in the sampling area, assay the outside of the sample vials per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.* If the results of the assay indicate that radiological contamination exists, consult with Radiological Operations before proceding.

21. Perform assays of sampling equipment as appropriate before removal from a potentially contaminated area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Certified Asbestos Inspector

22. Place all samples inside an additional plastic bag for transport. and place a tamper proof seal over the ziplock bag opening such that the seal or bag will be broken to gain access to the sample. Sign and date the tamper-proof seal. **This is the minimum packaging required for transport.**

23. Complete a Sample Analysis Request Form (available from ASD) and obtain a Chain of Custody Form from ASD. Write the sample number for each sample on the chain of custody form. Place the sample number label on the chain of custody papers.

> **NOTE:** If samples are to be transported to the laboratory by someone other than the sampler, then the sampler must relinquish the samples by signing the chain of custody form and the person receiving the samples must sign for the samples. **Samples must be under chain of custody at all times.**

24. Transport the samples in a manner consistent with the RFETS Transportation Manual to Roger Cichorz (966-2155, pager 212-3185, Room 292, Building 881), the Analytical Services Division (ASD) representative for the job. Formally relinquish custody for the samples. **Samples must be under chain of custody at all times.**

> **NOTE:** At present, asbestos analysis is carried out on the RFETS site in Building 881 by Reservoirs Environmental Services, so a Property / Waste Release Evaluation (P/WRE) is not required. If samples ARE to be transported off site, the RCT must fill out a Radiological Survey Form corresponding to the samples that are to be shipped. Then, contact the Radiological Engineer in charge of preparing P/WREs and provide that individual with the completed form. At the time of preparation of this document, that individual is Arlan Moore (966-6385).

Radiological Control Technician Foreman

25. Review all radiological records for completeness, complete the attached Signature Sheet, and return the completed package to the Certified Asbestos Inspector.

Sampler

26. Provide the RLC project representative with the completed Characterization Instruction including Signature Sheet, Asbestos Sampling Data Sheet, associated maps, photos, and other documentation relevant to the samples collected.

27. Dispose of all PPE as per the requirements of the area under survey.

Survey Area: Group A	Survey Unit: N/A	Building: 551

Survey Unit Description
Characterization Instruction for Group A Buildings

2.0 Smear samples for beryllium analysis

***NOTE:** Beryllium smear sampling **SHALL** be conducted by an IH technician who has been trained by IH&S on the procedure.*

Sampler:
1. Coordinate with Bldg. 551 management for Plan of the Day (POD) control. Phone Rich Nelson, 966-3676, pager 212-3813.

2. Obtain all required documents and permits. This includes:

- For Integrated Work Control Planning (IWCP):
  - Activity Screening Form (ASF)
  - Job Hazard Analysis (JHA) including applicable Activity Hazard Assessments (AHA)
- Radiological Work Permit (RWP)
- Health and Safety Plan (HASP)

Consult with Industrial Hygiene and with Radiological Operations to determine any other permits or notifications required.

3. Ensure that all required materials listed below are in hand before proceding to the survey area, as well as any required PPE, safety shoes, safety glasses, bump cap, or hard hat.

NOTE: Be sure to don disposable gloves before initiation of sampling, and change them as often as necessary.

- Whatman 41, 4.7 cm filter papers, numbered.
- Glassine Bags
- Template that sequesters a100 cm^2 pattern
- Sample Log for Beryllium Surface Sampling
- Chain of Custody Form (from Industrial Hygiene)
- Tamper Proof Seals
- Sharpie marking pen (*Important: Other markers may not write well on glassine bags.)*
- Disposable gloves
- Tweezers
- Map of area **(attached)**
- List of predetermined sampling locations **(attached)**
- **Breathing zone air sampling equipment (consult an IH for assistance)**

4. Complete a Sample Analysis Request Form (available from ASD) and submit it to ASD. ASD will then assign RIN numbers to the samples.

5. Upon entering the survey area, consult the attached map and locate the sampling areas.

6. Write each sample number on an individual glassine bag, and record the sample sequence number and the survey map point (i.e., B1, B2, etc., see attached map) of each sample in the Beryllium Sample Log provided by the project manager. In the description column, describe the surface upon which the sample was taken in enough detail that it could be located by another individual (e.g., "South side of top surface of cylindrical door assembly,").

7. Hold the 100 cm^2 template above the sampling location *so that it does not touch the surface*, and dry wipe the area bounded by the template using Whatman 41 filter papers. *Grasp the Whatman filter by the edge.* It is important to wipe the entire area, and to carry out the wipe in a consistent manner.

> **CAUTION:** Collect the sample in a manner that your gloved hands will not come in contact with the surface being sampled. If contact is made, the sampler **SHALL** change gloves before collecting the next sample.

8. Carefully place the filter in the appropriately labeled glassine bag.

9. When finished with all sampling, remove the breathing zone air filter cartridge, replace the plugs on the breathing zone air filter cartridge, and seal the sides with Chain of Custody Seal or appropriate adhesive such that integrity of the cartridge may not be broken without breaking the seal.

10. Surrender Chain of Custody of all collected samples, and the breathing zone air filter cartridge and filter, to the RCT assigned to the job. Chain of Custody forms are available from Industrial Hygiene.

Radiological Control Technician:
11. Don gloves and use tweezers to remove the filter from the bag, being careful not to tear it.

12. Carry out a documented survey of each filter. Count each sample separately on both a SAC-4 and a BC-4 to assess radiological contamination per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*, and write the data on the Radiological Survey Form. **Be very careful to ensure that the proper filter is returned to the proper glassine bag.**

13. Carry out a documented survey of the breathing zone air sampling filter, and swipe the outside of the cartridge and carry out a documented survey on it. **Do not break the seal on the cartridge.** Count each sample separately on both a SAC-4 and a BC-4 to assess radiological contamination per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*, and write the data on the Radiological Survey Form

> **NOTE**: If any radiological measurement exceeds contamination limits put forth in the Radiological Work Permit, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Radiological Operations Foreman
14. Review and sign the Radiological Survey Form. This is absolutely required for preparation of the Property/ Waste Release Evaluation (P/WRE).

Sampler:
15. Accept Chain of Custody of the samples back from the RCT by completing the Chain of Custody form.

16. Place the glassine bags inside of a ziplock bag, and place a tamper proof seal over the ziplock bag opening such that the seal or bag will be broken to gain access to the sample. Sign and date the tamper-proof seal. **This is the minimum packaging required for transport.**

> **NOTE:** If samples are to be transported by someone other than the sampler, then the sampler must relinquish the samples by signing the chain of custody form and the person receiving the samples must sign for the samples. **Samples must be under chain of custody at all times.**

17. Contact Arlan Moore (966-6385, Pager 212-6576), the Radiological Engineer in charge of preparing Property / Waste Release Evaluations (P/WRE) and provide him with the filled out Radiological Survey Form

corresponding to the samples that are to be shipped.

18. When the P/WRE is prepared, transport the samples to T891R. Formally relinquish custody for the samples to the laboratory. **Samples must be under chain of custody at all times.**

Radiological Control Technician Foreman
19. Review all radiological records for completeness, complete the attached Survey Signature Sheet, and return the completed package to the sampler.

Sampler
20. Provide the RLC project representative with the completed Characterization Instruction including Signature Sheet, the Beryllium Sampling Log, associated maps, photos, and other documentation relevant to the samples collected.

21. Dispose of all PPE as per the requirements of the area under survey.

3.0 Paint chip samples for isotopic analysis

NOTE: *This instruction complies with Commodore Advanced Sciences Standard Operating Procedure #CAS-SOP-003.*

Sampler
1. Coordinate with Bldg. 551 management for Plan of the Day (POD) control. Phone Rich Nelson, 966-3676, pager 212-3813.

2. Obtain all required documents and permits. This includes:

- For Integrated Work Control Planning (IWCP):
  - Activity Screening Form (ASF)
  - Job Hazard Analysis (JHA) including applicable Activity Hazard Assessments (AHA)
- Radiological Work Permit (RWP)
- Health and Safety Plan (HASP)
- Property Release Evaluation Form (PRE)

Consult with Industrial Hygiene and with Radiological Operations to determine any other permits or notifications required.

Consult with Industrial Hygiene and with Radiological Operations to determine any other permits or notifications required. Specifically, the hazard from lead in paint may require controls to be in compliance with OSHA Lead Standard.

3. Complete a Sample Analysis Request Form (available from ASD) and submit it to ASD. ASD will then assign RIN numbers to the samples.

4. Visually verify sample location against written descriptions on attached map. Confirm that the appropriate pre-numbered label exists for each sample location.

Radiological Control Technician (RCT)

[redacted]

[redacted]

[redacted] 62

12

R1

Survey Area: Group A	Survey Unit: N/A	Building: 551

Survey Unit Description

Characterization Instruction for Group A Buildings

Requirements.

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Sampler

20. Write the sample number for each sample on the chain of custody form. Place the sample number label on the chain of custody papers.

> **NOTE:** If samples are to be transported by someone other than the sampler, then the sampler must relinquish the samples by signing the chain of custody form and the person receiving the samples must sign for the samples. **Samples must be under chain of custody at all times.**

21. When the P/WRE is prepared, transport the samples to T891R, except for Radscreen samples, which are transported to the Thermo NuTech trailer. Formally relinquish custody for the samples to the laboratory. **Samples must be under chain of custody at all times.**

22. Dispose of all PPE as per the requirements of the area under survey.

Radiological Control Technician Foreman

23. Review the survey package for completeness, complete the attached Signature Sheet, and forward the survey package to Building Radiological Engineering for final disposition.

Sampler

24. Provide the RLC project representative with the Paint Sample Log, associated maps, photos, and other documentation relevant to the samples collected.

Survey Area: Group A	Survey Unit: N/A	Building: 551
Survey Unit Description Characterization Instruction for Group A Buildings		

SURVEY SIGNATURE SHEET

Surface Contamination Survey Performed By

Rex Snyder	[redacted]		8-11-99
RCT Printed Name		RCT Signature	Date
RCT Printed Name	Employee #	RCT Signature	Date
RCT Printed Name	Employee #	RCT Signature	Date

Asbestos Sampling Performed By

	[redacted]	Andre Gonzalez	8/12/99
Certified Asbestos Inspector Printed Name		Certified Asbestos Inspector Printed Name	Date

Beryllium Sampling Performed By

DAVID F FARLER	[redacted]		8/13/99
I.H. Technician Printed Name		I.H. Technician Signature	Date
I.H. Technician Printed Name	Employee #	I.H. Technician Signature	Date
I.H. Technician Printed Name	Employee #	I.H. Technician Signature	Date

Survey Area: Group A	Survey Unit: N/A	Building: 551
Survey Unit Description Characterization Instruction for Group A Buildings		

Paint Chip Sampling (Isotopics) Performed By

Sampling Technician Printed Name		Sampling Technician Signature	Date
D. Lippincott	[redacted]	D. Lippincott	8-13-99
JEN WINGARD	[redacted]	Jen Wingard	8/13/99
JOHN GOOLSBY	[redacted]	John Goolsby	8/16/99

Surface Contamination Monitor Performed By

~~Engineers~~ RCT Printed Name		~~Engineer's~~ RCT Signature	Date
Rex Snyder	[redacted]	R. Snyder	8-11-99

Engineer's Printed Name	Employee #	Engineer's Signature	Date

Survey Reviewed By

RCT Foreman Printed Name		RCT Foreman Signature	Date
Letty N. Cooper	[redacted]	Letty N. Cooper	8-16-99

SURFACE MEDIA DATA FORM

Lab Sample Number	Sample Location Number	Sample Surface Area (in^2)	Pre-Sample Total Activity Measurement (dpm/100 cm^2)	Pre Sample Removable Activity Number	Post Sample Total Activity Measurement (dpm/100 cm^2)	Post Sample Removable Activity Number
	1	40		1A		1B
	2	40		2A		2B
	3	40		3A		3B
	4	40		4A		4B
	5	40		5A		5B
	6	40		6A		6B
	7	40		7A		7B
	8	40		8A		8B

Survey Area: Group A	Survey Unit: N/A	Building: 551

Survey Unit Description

Characterization Instruction for Group A Buildings

	9	40		9A		9B
	10	40		10A		10B
	11	40		11A		11B
	12	40		12A		12B
	13	40		13A		13B
	14	40		14A		14B
	15	40		15A		15B
	16	40		16A		16B
	17	40		17A		17B

Remarks

16

R1

Survey Area: Group A	Survey Unit: N/A	Building: 551
Survey Unit Description Characterization Instruction for Group A Buildings		

SURVEY MAP

Floor ft²: N/A	Total ft²: 44,140		
Rex Snyder	[redacted]		8-11-99
RCT Printed Name		RCT Signature	Date
RCT Printed Name	Employee #	RCT Signature	Date

(#) - Survey Measurement Location

LAB - Local Area Background Location

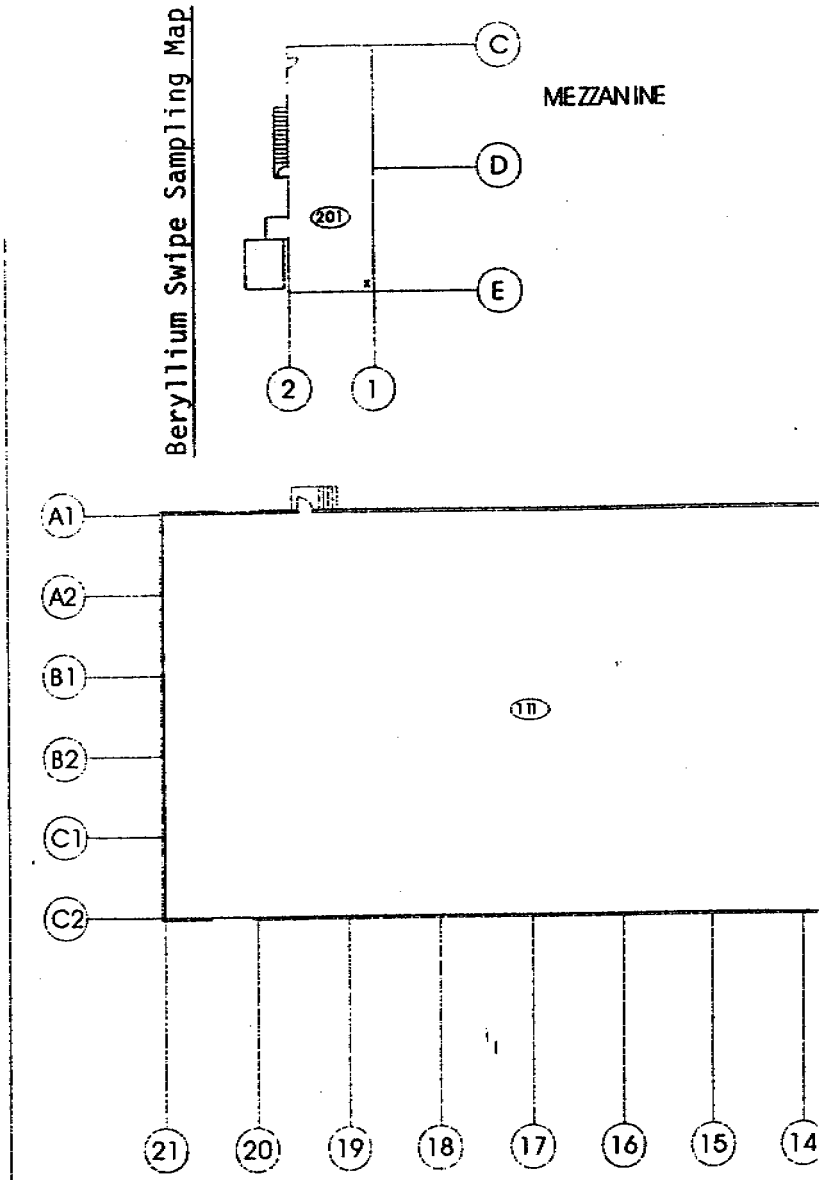
* - Elevated Survey Measurement Location

Scan Survey Location

Paint/Surface/Solid Media Sample

17

R1


Beryllium Swipe Sampling Map
C
MEZZANINE
D
201
E
2
1
A1
A2
B1
B2
C1
C2
111
21
20
19
18
17
16
15
14
BLDG 558 F

Survey Area: Group A	Survey Unit: N/A	Building: 662
Survey Unit Description Characterization Instruction for Group A Buildings		

CHARACTERIZATION INSTRUCTION COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☒ Asbestos, Beryllium

Special Support Requirements

Ladder, scaffolding, or man-lift. Media samplers to take paint samples from floor.

Special Safety Precautions

Fall protection is required for work above 6 ft.
Refer to Activity Hazards Analysis and 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

Obtain pre-printed, uniquely numbered sample labels from ASD or RLC project representative.

Characterization Instruction Implementation

This survey package is ready for implementation. Adequate detail is provided to allow implementation by the sampling team. DQO's and data evaluation requirements are covered in the *Decontamination and Decommissioning Characterization Protocol*, MAN-077-DDCP.

PAUL A. WOJTASZEK	[redacted]	Paul A Wojtaszek	04/21/99
Preparer Printed Name		Preparer Signature	Date
MARK C. BROOKS		Mark C Brooks	4-21-99
Reviewer Printed Name		Reviewer Signature	Date

L9

P1

Survey Area: Group A	Survey Unit: N/A	Building: 662
Survey Unit Description Characterization Instruction for Group A Buildings		

SAMPLING AND SURVEY INSTRUCTIONS

Minimum Survey & Sample Measurement Requirements		
Measurement	**Amount & Type**	**Comments**
Smear samples for beryllium analysis	4 total (3 plus duplicate) at biased locations given on map ✓	Sampler must be an **industrial hygiene representative**; Collect according to attached map.
Media samples for asbestos analysis	24 samples estimated (fewer may be taken at discretion of inspector) ✓	Sampler must be a **Certified Asbestos Inspector;** Collect samples as required by inspection.

20

C1

Survey Area: Group A	Survey Unit: N/A	Building: 662

Survey Unit Description
Characterization Instruction for Group A Buildings

NOTE: Media sampling of the slab (or ground floor when such is equivalent to the slab) is not within the scope of reconnaissance level characterization. The following considerations must be addressed to characterize the slab: Due to spill incidents in that yard and the fact that transformers were repaired in the yard as well, it is credible that materials were tracked inside onto the floor, and therefore prudent to sample for PCBs inside the building. The soil under the slab will probably need to be sampled for VOC/SVOC.

NOTE: A Property / Waste Release Evaluation (P/WRE) is required for all analytical samples to be transported offsite for analysis. However, the instructions for RCTs and Radiological Operations Foreman in the following sections may be waived if it is deemed by Radiological Engineering (Arlan Moore) that no assay is required due to building history and process knowledge, per 3-PRO-141-RSP 09.01, *Unrestricted Release of Property, Material, Equipment, and Waste.*

Sampling Instructions

1.0 Media samples for asbestos analysis

NOTE: The sampler SHALL be a Certified Asbestos Inspector.

Certified Asbestos Inspector
1. Coordinate with Bldg. 662 management for Plan of the Day (POD) control by calling Mark Neeley (966-2947, pager 212-3766).

2. Obtain all required documents and permits. This includes:

- For Integrated Work Control Planning (IWCP):
- Activity Screening Form (ASF)
- Job Hazard Analysis (JHA) including applicable Activity Hazard Assessments (AHA)
- Radiological Work Permit (RWP)
- Health and Safety Plan (HASP)

Consult with Industrial Hygiene and with Radiological Operations to determine any other permits or notifications required.

The sampler must be medically qualified and monitored for asbestos exposure within a medical survillance program, and must wear protective gloves, safety glasses, safety shoes, and modesty clothing, with additional PPE if deemed necessary by IH&S.

3. Visually verify sample location against written descriptions.

4. Confirm that the appropriate pre-numbered label exists for each sample location.

Radiological Control Technician (RCT)
5. Obtain pre-media sampling 100 cm^2 total measurements at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

6. Obtain pre-media sampling 100 cm^2 removable swipes at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

7. Analyze swipes and record both results per 3-PRO-165-RSP 07.02, *Contamination Monitoring*

21

RI

Requirements. If a selected location is determined to exceed acceptable parameters, a second location must be selected. Should no radiologically acceptable location be found, a contaminated sample may be acquired and treated accordingly.

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Certified Asbestos Inspector
8. Secure a polyethylene drop cloth or a baggie below the sample area but above the floor.

9. Wet the immediate sample area is with a mist of water and surfactant.

10. Select a sampling tool, such as a hammer and chisel, razor knife, "Wondermaker" or hole saw and acquire the sample, making sure to take a complete sample from the substrate. **Each sample must be a minimum of one cubic centimeter but no more than that necessary to be representative of the suspect material.** During this process, continually spray mist on the immediate surface as needed to preclude drying.

11. Place the sample in a sealable container, such as a plastic bag or vial.

Radiological Control Technician (RCT)
12. Obtain post-media sampling 100 cm^2 total measurements at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*.

13. Obtain post-media sampling 100 cm^2 removable swipes at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*.

14. Analyze swipes and record both results per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*. If the post-media sampling total measurements or swipes indicate that radiological contamination may have been removed with the sample, treat the sample as contaminated.

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Certified Asbestos Inspector
15. Seal the container and place the appropriate pre-numbered label on the container. Verify that the container is sealed.

16. Document the description and location on an Asbestos Sampling Data Sheet, place a sample label on the form, and document the the location on a blueprint or other suitable drawing.

17. Thoroughly clean the sampling tool using the mist sprayer and wipes.

18. Patch the sample area as needed.

19. Wet and wipe the sample container, drop cloth and immediate sample area. Carefully fold the drop cloth in toward the center and place it in a sealable bag, and seal the bag.

Radiological Control Technician (RCT)
20. If removable radiological contamination was suspected in the sampling area, assay the outside of the sample vials per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*. If the results of the assay indicate that radiological contamination exists, consult with Radiological Operations before proceeding.

21. Perform assays of sampling equipment as appropriate before removal from a potentially contaminated area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Certified Asbestos Inspector
22. Place all samples inside an additional plastic bag for transport. and place a tamper proof seal over the ziplock bag opening such that the seal or bag will be broken to gain access to the sample. Sign and date the tamper-proof seal. **This is the minimum packaging required for transport.**

23. Complete a Sample Analysis Request Form (available from ASD) and obtain a Chain of Custody Form from ASD. Write the sample number for each sample on the chain of custody form. Place the sample number label on the chain of custody papers.

> **NOTE:** If samples are to be transported to the laboratory by someone other than the sampler, then the sampler must relinquish the samples by signing the chain of custody form and the person receiving the samples must sign for the samples. **Samples must be under chain of custody at all times.**

24. Transport the samples in a manner consistent with the RFETS Transportation Manual to Roger Cichorz (966-2155, pager 212-3185, Room 292, Building 881), the Analytical Services Division (ASD) representative for the job. Formally relinquish custody for the samples. **Samples must be under chain of custody at all times.**

> **NOTE:** At present, asbestos analysis is carried out on the RFETS site in Building 881 by Reservoirs Environmental Services, so a Property / Waste Release Evaluation (P/WRE) is not required. If samples ARE to be transported off site, the RCT must fill out a Radiological Survey Form corresponding to the samples that are to be shipped. Then, contact the Radiological Engineer in charge of preparing P/WREs and provide that individual with the completed form. At the time of preparation of this document, that individual is Arlan Moore (966-6385).

Radiological Control Technician Foreman
25. Review all radiological records for completeness, complete the attached Signature Sheet, and return the completed package to the Certified Asbestos Inspector.

Sampler
26. Provide the RLC project representative with the completed Characterization Instruction including Signature Sheet, Asbestos Sampling Data Sheet, associated maps, photos, and other documentation relevant to the samples collected.

27. Dispose of all PPE as per the requirements of the area under survey.

2.0 Smear samples for beryllium analysis

> ***NOTE:*** *Beryllium smear sampling **SHALL** be conducted by an IH technician who has been trained by IH&S on the procedure.*

Sampler:

Survey Area: Group A	Survey Unit: N/A	Building: 662

Survey Unit Description

Characterization Instruction for Group A Buildings

1. Coordinate with Bldg. 662 management for Plan of the Day (POD) control by calling Mark Neeley (966-2947, pager 212-3766).

2. Obtain all required documents and permits. This includes:

- For Integrated Work Control Planning (IWCP):
- Activity Screening Form (ASF)
- Job Hazard Analysis (JHA) including applicable Activity Hazard Assessments (AHA)
- Radiological Work Permit (RWP)
- Health and Safety Plan (HASP)

Consult with Industrial Hygiene and with Radiological Operations to determine any other permits or notifications required.

3. Ensure that all required materials listed below are in hand before proceding to the survey area, as well as any required PPE, safety shoes, safety glasses, bump cap, or hard hat.

> ***NOTE: Be sure to don disposable gloves before initiation of sampling, and change them as often as necessary.***

- Whatman 41, 4.7 cm filter papers, numbered.
- Glassine Bags
- Template that sequesters a100 cm^2 pattern
- Sample Log for Beryllium Surface Sampling
- Chain of Custody Form (from Industrial Hygiene)
- Tamper Proof Seals
- Sharpie marking pen (*Important: Other markers may not write well on glassine bags.)*
- Disposable gloves
- Tweezers
- Map of area **(attached)**
- List of predetermined sampling locations **(attached)**
- **Breathing zone air sampling equipment (consult an IH for assistance)**

4. Complete a Sample Analysis Request Form (available from ASD) and submit it to ASD. ASD will then assign RIN numbers to the samples.

5. Upon entering the survey area, consult the attached map and locate the sampling areas.

6. Write each sample number on an individual glassine bag, and record the sample sequence number and the survey map point (i.e., B1, B2, etc., see attached map) of each sample in the Beryllium Sample Log provided by the project manager. In the description column, describe the surface upon which the sample was taken in enough detail that it could be located by another individual (e.g., "South side of top surface of cylindrical door assembly,").

7. Hold the 100 cm^2 template above the sampling location *so that it does not touch the surface*, and dry wipe the area bounded by the template using Whatman 41 filter papers. *Grasp the Whatman filter by the edge.* It is important to wipe the entire area, and to carry out the wipe in a consistent manner.

> **CAUTION:** Collect the sample in a manner that your gloved hands will not come in contact with the surface being sampled. If contact is made, the sampler **SHALL** change gloves before collecting the next sample.

8. Carefully place the filter in the appropriately labeled glassine bag.

9. When finished with all sampling, remove the breathing zone air filter cartridge, replace the plugs on the breathing zone air filter cartridge, and seal the sides with Chain of Custody Seal or appropriate adhesive such that integrity of the cartridge may not be broken without breaking the seal.

10. Surrender Chain of Custody of all collected samples, and the breathing zone air filter cartridge and filter, to the RCT assigned to the job. Chain of Custody forms are available from Industrial Hygiene.

Radiological Control Technician:
11. Don gloves and use tweezers to remove the filter from the bag, being careful not to tear it.

12. Carry out a documented survey of each filter. Count each sample separately on both a SAC-4 and a BC-4 to assess radiological contamination per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*, and write the data on the Radiological Survey Form. **Be very careful to ensure that the proper filter is returned to the proper glassine bag.**

13. Carry out a documented survey of the breathing zone air sampling filter, and swipe the outside of the cartridge and carry out a documented survey on it. **Do not break the seal on the cartridge**. Count each sample separately on both a SAC-4 and a BC-4 to assess radiological contamination per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*, and write the data on the Radiological Survey Form

> **NOTE**: If any radiological measurement exceeds contamination limits put forth in the Radiological Work Permit, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Radiological Operations Foreman
14. Review and sign the Radiological Survey Form. This is absolutely required for preparation of the Property/ Waste Release Evaluation (P/WRE).

Sampler:
15. Accept Chain of Custody of the samples back from the RCT by completing the Chain of Custody form.

16. Place the glassine bags inside of a ziplock bag, and place a tamper proof seal over the ziplock bag opening such that the seal or bag will be broken to gain access to the sample. Sign and date the tamper-proof seal. **This is the minimum packaging required for transport.**

> **NOTE:** If samples are to be transported by someone other than the sampler, then the sampler must relinquish the samples by signing the chain of custody form and the person receiving the samples must sign for the samples. **Samples must be under chain of custody at all times.**

17. Contact Arlan Moore (966-6385, Pager 212-6576), the Radiological Engineer in charge of preparing Property / Waste Release Evaluations (P/WRE) and provide him with the filled out Radiological Survey Form corresponding to the samples that are to be shipped.

18. When the P/WRE is prepared, transport the samples to T891R. Formally relinquish custody for the samples to the laboratory. **Samples must be under chain of custody at all times.**

Radiological Control Technician Foreman
19. Review all radiological records for completeness, complete the attached Survey Signature Sheet, and return the completed package to the sampler.

Survey Area: Group A	Survey Unit: N/A	Building: 662

Survey Unit Description
Characterization Instruction for Group A Buildings

Sampler
20. Provide the RLC project representative with the completed Characterization Instruction including Signature Sheet, the Beryllium Sampling Log, associated maps, photos, and other documentation relevant to the samples collected.

21. Dispose of all PPE as per the requirements of the area under survey.

26

R1

Survey Area: Group A	Survey Unit: N/A	Building: 662
Survey Unit Description Characterization Instruction for Group A Buildings		

SURVEY SIGNATURE SHEET

Surface Contamination Survey Performed By

Rex Snyder	[redacted]		8-11-99
RCT Printed Name		RCT Signature	Date
RCT Printed Name	Employee #	RCT Signature	Date
RCT Printed Name	Employee #	RCT Signature	Date

RCT Printed Name	Employee #	RCT Signature	Date

Beryllium Sampling Performed By

DAVID F. FARLER	[redacted]		8/13/99
I.H. Technician Printed Name		I.H. Technician Signature	Date
I.H. Technician Printed Name	Employee #	I.H. Technician Signature	Date
I.H. Technician Printed Name	Employee #	I.H. Technician Signature	Date

27

R1

Survey Area: Group A	Survey Unit: N/A	Building: 662
Survey Unit Description Characterization Instruction for Group A Buildings		

Asbestos Sampling Performed By

Certified Asbestos Inspector Printed Name	[redacted]	Certified Asbestos Inspector Printed Name	Date
		Andre Gonzalez	8/12/99

Surface Contamination Monitor Performed By

Engineers Printed Name	[redacted]	Engineer's Signature	Date
Rex Snyder RCT		RCT	8-11-99
Engineer's Printed Name	Employee #	Engineer's Signature	Date

Survey Reviewed By

RCT Foreman Printed Name	[redacted]	RCT Foreman Signature	Date
C N Cooper			8-16-99

SURFACE MEDIA DATA FORM

Lab Sample Number	Sample Location Number	Sample Surface Area (in^2)	Pre-Sample Total Activity Measurement ($dpm/100\ cm^2$)	Pre Sample Removable Activity Number	Post Sample Total Activity Measurement ($dpm/100\ cm^2$)	Post Sample Removable Activity Number
	1	40		1A		1B
	2	40		2A		2B
	3	40		3A		3B
	4	40		4A		4B
	5	40		5A		5B
	6	40		6A		6B
	7	40		7A		7B
	8	40		8A		8B
	9	40		9A		9B
	10	40		10A		10B
	11	40		11A		11B
	12	40		12A		12B
	13	40		13A		13B
	14	40		14A		14B
	15	40		15A		15B

Survey Area: Group A	Survey Unit: N/A	Building: 662

Survey Unit Description

Characterization Instruction for Group A Buildings

	16	40		16A		16B
	17	40		17A		17B

Remarks

29

R1

Survey Area: Group A	Survey Unit: N/A	Building: 662
Survey Unit Description Characterization Instruction for Group A Buildings		

SURVEY MAP

Floor ft²: N/A	Total ft²: 2600		
Rex Snyder RCT Printed Name	[redacted] Employee #	RCT Signature	8-11-99 Date
RCT Printed Name	Employee #	RCT Signature	Date

(#) - Survey Measurement Location

LAB - Local Area Background Location

Location

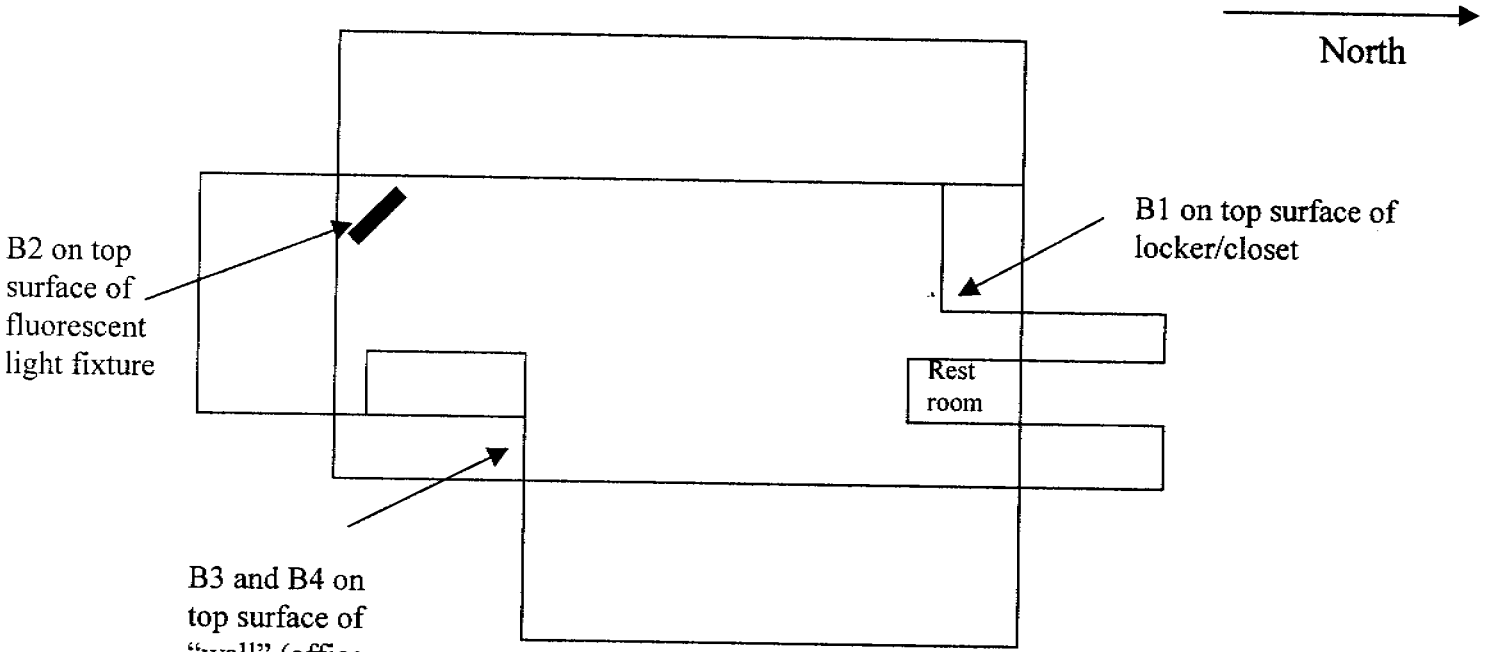
* - Elevated Survey Measurement Location

Scan Survey Location

Paint/Surface/Solid Media Sample

Building 662 Floor & Walls

Locations of Beryllium Smear Samples



Group A RLCP Survey

Survey Area: Group A	Survey Unit: N/A	Building: 709
Survey Unit Description Characterization Instruction for Group A Buildings		

CHARACTERIZATION INSTRUCTION COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☒ Asbestos, Beryllium

Special Support Requirements

Ladder, scaffolding, or man-lift. Media samplers to take paint samples from floor.

Special Safety Precautions

Fall protection is required for work above 6 ft.
Refer to Activity Hazards Analysis and 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

Obtain pre-printed, uniquely numbered sample labels from ASD or RLC project representative.

Characterization Instruction Implementation

This survey package is ready for implementation. Adequate detail is provided to allow implementation by the sampling team. DQO's and data evaluation requirements are covered in the *Decontamination and Decommissioning Characterization Protocol*, MAN-077-DDCP.

Paul A. Wojtas Jr.	[redacted]	Paul A Wojtas Jr	04/21/99
Preparer Printed Name		Preparer Signature	Date
Mark C. Brooks		Mark C. Brooks	4-21-99
Reviewer Printed Name		Reviewer Signature	Date

Survey Area: Group A	Survey Unit: N/A	Building: 709
Survey Unit Description Characterization Instruction for Group A Buildings		

SAMPLING AND SURVEY INSTRUCTIONS

Minimum Survey & Sample Measurement Requirements		
Measurement	**Amount & Type**	**Comments**
Core samples in wood slats for TCLP analysis	5 total (4 plus duplicate). From these, prepare one composite for radscreen. ✓	Collect cores in wood slats using 1 inch spade bit to a depth of 1.0 to 1.5 inches. Collect a minimum of 125 grams for each sample plus a 60 gram duplicate for radscreen. See attached map for sampling locations.
Grab samples of "sludge" for metals TCLP analysis	7 (6 plus duplicate) at evenly distributed locations. From these prepare one composite for radscreen. ✓	Collect a minimum of 125 grams at each location plus a 60 gram duplicate for radscreen. See attached map for sampling locations.
Media samples for asbestos analysis	11 media samples ✓	Sampling must be performed by a **Certified Asbestos Inspector.** Inspection will determine sampling locations.
Grab samples of "sludge" for isotopic analysis	6 total ✓	6 sludge samples will be taken in the concrete basin, at the same sample locations as the first six sludge samples for TCLP (there is no duplicate). The radscreens for the sludge TCLP samples will serve as radscreens for these samples.

Survey Area: Group A	Survey Unit: N/A	Building: 709

Survey Unit Description
Characterization Instruction for Group A Buildings

NOTE: A Property Release Evaluation (PRE) is required for all analytical samples to be transported offsite for analysis. However, the instructions for RCTs and Radiological Operations Foreman in the following sections may be waived if it is deemed by Radiological Engineering (Arlan Moore) that no assay is required due to building history and process knowledge, per 3-PRO-141-RSP 09.01, *Unrestricted Release of Property, Material, Equipment, and Waste.*

Sampling Instructions

1.0 Core sampling for metals in wood slats (TCLP)

Sampler:
1. Coordinate with building manager, Stan Bruske, at 966-6609, pager 212-3976, for Plan of the Day control.

2. Obtain all required documents and permits. This includes:

- For Integrated Work Control Planning (IWCP):
  - Activity Screening Form (ASF)
  - Job Hazard Analysis (JHA) including applicable Activity Hazard Assessments (AHA)
- Radiological Work Permit (RWP)
- Health and Safety Plan (HASP)

Consult with Industrial Hygiene and with Radiological Operations to determine any other permits or notifications required.

The sampler conducting the core drilling **SHALL** wear a breathing zone air sampler for this operation. See Dave Farler (IH&S) to arrange this before initiating sampling activity.

3. Ensure that all required materials listed below are in hand before proceding to the survey area, as well as any required PPE, safety shoes, safety glasses, bump cap, or hard hat. In addition, sampling will require a drill, a spade bit, adhesive tape, plastic "Ziploc" bags to collect wood shavings, and a balance or scale to weigh the collected sample.

Radiological Control Technician (RCT)
4. Obtain pre-media sampling 100 cm^2 total measurements at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

5. Obtain pre-media sampling 100 cm^2 removable swipes at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

6. Analyze swipes and record both results per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.* If a selected location is determined to exceed acceptable parameters, a second location must be selected. Should no radiologically acceptable location be found, a contaminated sample may be acquired and treated accordingly.

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

7. Tape a sealable "Ziplock"-type plastic bag approximately 3 inches below the area to be cored. To avoid

34

A1

possible sources of cross contamination, be sure that the tape bonding material does not come in contact with the inside of the plastic bag.

8. Place a mark on the spade bit 1.5 inches above the tip. (In accordance with RMRS Operations directive 006, "Safety Requirements for Work Involving Penetration of Walls, Floors, Ceilings, and Concrete, Asphalt, and Masonry Pads", all penetrating (i.e., drilling) work shall be limited to less than 2 inches.)

9. Attach the spade bit to a drill. It is assumed that a battery-powered cordless portable drill will be used, although this is not required.

10. Begin coring the sample. Limit penetration to the 1.5 inch mark.

11. As coring proceeds, be sure that the wood chips fall into the plastic bag. Collect about 185 grams of wood from a single core or closely offset cores. Avoid, as practical, moving the plastic bag.

12. Transfer at least 60 grams of wood to the properly labeled appropriately sized jar for Rad Screen.

13. Transfer the remaining sample (at least 125 grams) to the properly labeled appropriately sized jar for TCLP analysis.

14. **IMMEDIATELY** record the sample number and a detailed description of the sample in the Core Sample Log.

15. Complete a Sample Analysis Request Form (available from ASD) and obtain a Chain of Custody Form from ASD. Write the sample number for each sample on the chain of custody form. Place the sample number label on the chain of custody papers.

> **NOTE:** If samples are to be transported by someone other than the sampler, then the sampler must relinquish the samples by signing the chain of custody form and the person receiving the samples must sign for the samples. **Samples must be under chain of custody at all times.**

Radiological Control Technician (RCT)
16. Obtain post-media sampling 100 cm^2 total measurements at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

17. Obtain post-media sampling 100 cm^2 removable swipes at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

18. Analyze swipes and record both results per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.* If a selected location is determined to exceed acceptable parameters, a second location must be selected. Should no radiologically acceptable location be found, a contaminated sample may be acquired and treated accordingly.

> **IMPORTANT**: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Sampler
19. Transport the samples to T891R, except for Radscreen samples, which are transported to the Thermo NuTech trailer. Formally relinquish custody for the samples to the laboratory. **Samples must be under chain of custody at all times.**

20. Dispose of all PPE as per the requirements of the area under survey.

Radiological Control Technician Foreman
21. Review the survey package for completeness, complete the attached Signature Sheet, and forward the survey package to Building Radiological Engineering for final disposition.

Sampler
22. Provide the RLC project representative with the Paint Sample Log, associated maps, photos, and other documentation relevant to the samples collected.

23. Dispose of all PPE as per the requirements of the area under survey.

2.0 Grab sampling of sludge for metals TCLP analysis

Sampler:
1. Coordinate with building manager, Stan Bruske, at 966-6609, pager 212-3976, for Plan of the Day control.

2. Obtain all required permits. This includes determining which of the following are applicable, and obtaining each:

- For Integrated Work Control Planning (IWCP):
  Activity Screen Form (ASF)
  Job Hazard Analysis (JHA) including applicable Activity Hazard Assessments (AHA)
- Radiological Work Permit (RWP)

Consult with Industrial Hygiene and with Radiological Operations to determine any other permits or notifications required.

3. Ensure that all required materials listed below are in hand before proceding to the survey area, as well as any required PPE, safety shoes, safety glasses, bump cap, or hard hat. In addition, sampling will require a trowel or digging implement, sample jars, a spray mister, and a balance or scale to weigh the collected sample.

4. Identify the sampling location from the attached map.

Radiological Control Technician (RCT)
5. Obtain pre-media sampling 100 cm^2 total measurements at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

6. Obtain pre-media sampling 100 cm^2 removable swipes at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

7. Analyze swipes and record both results per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.* If a selected location is determined to exceed acceptable parameters, a second location must be selected. Should no radiologically acceptable location be found, a contaminated sample may be acquired and treated accordingly.

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work

Survey Area: Group A	Survey Unit: N/A	Building: 709

Survey Unit Description
Characterization Instruction for Group A Buildings

Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Sampler
5. If the "sludge" is dry enough such that particles might become airborne during sampling, spray a water mist onto the sample area first before beginning to dig a sample.

6. Dig 125 grams of sludge and place it in a sample jar. Additionally, deposit 60 grams of sludge into a separate jar for Rad Screen.

7. **IMMEDIATELY** record the sample number and a detailed description of the sample on the Sludge Sample Log Sheet.

8. Complete a Sample Analysis Request Form (available from ASD) and obtain a Chain of Custody Form from ASD. Write the sample number for each sample on the chain of custody form. Place the sample number label on the chain of custody papers.

> **NOTE:** If samples are to be transported to the laboratory by someone other than the sampler, then the sampler must relinquish the samples by signing the chain of custody form and the person receiving the samples must sign for the samples. **Samples must be under chain of custody at all times.**

Radiological Control Technician (RCT)
9. Obtain post-media sampling 100 cm^2 total measurements at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

10. Obtain post-media sampling 100 cm^2 removable swipes at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

11. Analyze swipes and record both results per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.* If a selected location is determined to exceed acceptable parameters, a second location must be selected. Should no radiologically acceptable location be found, a contaminated sample may be acquired and treated accordingly.

> **IMPORTANT**: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Sampler
12. Transport the samples to T891R, except for Radscreen samples, which are transported to the Thermo NuTech trailer. Formally relinquish custody for the samples to the laboratory. **Samples must be under chain of custody at all times.**

13. Dispose of all PPE as per the requirements of the area under survey.

Radiological Control Technician Foreman
14. Review the survey package for completeness, complete the attached Signature Sheet, and forward the survey package to Building Radiological Engineering for final disposition.

Sampler
15. Provide the RLC project representative with the Paint Sample Log, associated maps, photos, and other documentation relevant to the samples collected.

37

RI

16. Dispose of all PPE as per the requirements of the area under survey.

3.0 Grab sampling of sludge for isotopic analysis

Sampler:
1. Coordinate with building manager, Stan Bruske, at 966-6609, pager 212-3976, for Plan of the Day control.

2. Obtain all required permits. This includes determining which of the following are applicable, and obtaining each:

- For Integrated Work Control Planning (IWCP):
  - Activity Screen Form (ASF)
  - Job Hazard Analysis (JHA) including applicable Activity Hazard Assessments (AHA)
- Radiological Work Permit (RWP)

Consult with Industrial Hygiene and with Radiological Operations to determine any other permits or notifications required.

3. Ensure that all required materials listed below are in hand before proceding to the survey area, as well as any required PPE, safety shoes, safety glasses, bump cap, or hard hat. In addition, sampling will require a trowel or digging implement, sample jars, a spray mister, and a balance or scale to weigh the collected sample.

4. Identify the sampling location from the attached map.

Radiological Control Technician (RCT)
5. Obtain pre-media sampling 100 cm^2 total measurements at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

6. Obtain pre-media sampling 100 cm^2 removable swipes at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

7. Analyze swipes and record both results per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.* If a selected location is determined to exceed acceptable parameters, a second location must be selected. Should no radiologically acceptable location be found, a contaminated sample may be acquired and treated accordingly.

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Sampler

5. If the "sludge" is dry enough such that particles might become airborne during sampling, spray a water mist onto the sample area first before beginning to dig a sample.

6. Dig 125 grams of sludge and place it in a sample jar. Additionally, deposit 60 grams of the sludge into a separate sample jar for Rad Screen.

7. **IMMEDIATELY** record the sample number and a detailed description of the sample on the Isotopic Sludge Sample Log Sheet.

8. Complete a Sample Analysis Request Form (available from ASD) and obtain a Chain of Custody Form from ASD. Write the sample number for each sample on the chain of custody form. Place the sample number label on the chain of custody papers.

> **NOTE:** If samples are to be transported to the laboratory by someone other than the sampler, then the sampler must relinquish the samples by signing the chain of custody form and the person receiving the samples must sign for the samples. **Samples must be under chain of custody at all times.**

Sampler
13. Transport the samples to T891R, except for Radscreen samples, which are transported to the Thermo NuTech trailer. Formally relinquish custody for the samples to the laboratory. **Samples must be under chain of custody at all times.**

14. Dispose of all PPE as per the requirements of the area under survey.

Radiological Control Technician Foreman
15. Review the survey package for completeness, complete the attached Signature Sheet, and forward the survey package to Building Radiological Engineering for final disposition.

Sampler
16. Provide the RLC project representative with the Paint Sample Log, associated maps, photos, and other documentation relevant to the samples collected.

17. Dispose of all PPE as per the requirements of the area under survey.

4.0 Media samples for asbestos analysis

NOTE: The sampler SHALL be a Certified Asbestos Inspector.

Certified Asbestos Inspector
1. Coordinate with building manager, Stan Bruske, at 966-6609, pager 212-3976, for Plan of the Day control.

2. Obtain all required documents and permits. This includes:

- For Integrated Work Control Planning (IWCP):
- Activity Screening Form (ASF)
- Job Hazard Analysis (JHA) including applicable Activity Hazard Assessments (AHA)
- Radiological Work Permit (RWP)
- Health and Safety Plan (HASP)

Consult with Industrial Hygiene and with Radiological Operations to determine any other permits or notifications required.

Inform Wackenhut Security Dispatch at 966-2444 before accessing the roof.
The sampler must be medically qualified and monitored for asbestos exposure within a medical survillance program, and must wear protective gloves, safety glasses, safety shoes, and modesty clothing, with additional

PPE if deemed necessary by IH&S.

3. Visually verify sample location against written descriptions.

4. Confirm that the appropriate pre-numbered label exists for each sample location.

Radiological Control Technician (RCT)
5. Obtain pre-media sampling 100 cm^2 total measurements at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*.

6. Obtain pre-media sampling 100 cm^2 removable swipes at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*.

7. Analyze swipes and record both results per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*. If a selected location is determined to exceed acceptable parameters, a second location must be selected. Should no radiologically acceptable location be found, a contaminated sample may be acquired and treated accordingly.

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Certified Asbestos Inspector
8. Secure a polyethylene drop cloth or a baggie below the sample area but above the floor.

9. Wet the immediate sample area is with a mist of water and surfactant.

10. Select a sampling tool, such as a hammer and chisel, razor knife, "Wondermaker" or hole saw and acquire the sample, making sure to take a complete sample from the substrate. **Each sample must be a minimum of one cubic centimeter but no more than that necessary to be representative of the suspect material.** During this process, continually spray mist on the immediate surface as needed to preclude drying.

11. Place the sample in a sealable container, such as a plastic bag or vial.

Radiological Control Technician (RCT)
12. Obtain post-media sampling 100 cm^2 total measurements at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*.

13. Obtain post-media sampling 100 cm^2 removable swipes at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*.

14. Analyze swipes and record both results per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*. If the post-media sampling total measurements or swipes indicate that radiological contamination may have been removed with the sample, treat the sample as contaminated.

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Certified Asbestos Inspector
15. Seal the container and place the appropriate pre-numbered label on the container. Verify that the

container is sealed.

16. Document the description and location on an Asbestos Sampling Data Sheet, place a sample label on the form, and document the the location on a blueprint or other suitable drawing.

17. Thoroughly clean the sampling tool using the mist sprayer and wipes.

18. Patch the sample area as needed.

19. Wet and wipe the sample container, drop cloth and immediate sample area. Carefully fold the drop cloth in toward the center and place it in a sealable bag, and seal the bag.

Radiological Control Technician (RCT)
20. If removable radiological contamination was suspected in the sampling area, assay the outside of the sample vials per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.* If the results of the assay indicate that radiological contamination exists, consult with Radiological Operations before proceding.

21. Perform assays of sampling equipment as appropriate before removal from a potentially contaminated area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Certified Asbestos Inspector
22. Place all samples inside an additional plastic bag for transport. and place a tamper proof seal over the ziplock bag opening such that the seal or bag will be broken to gain access to the sample. Sign and date the tamper-proof seal. **This is the minimum packaging required for transport.**

23. Complete a Sample Analysis Request Form (available from ASD) and obtain a Chain of Custody Form from ASD. Write the sample number for each sample on the chain of custody form. Place the sample number label on the chain of custody papers.

> **NOTE:** If samples are to be transported to the laboratory by someone other than the sampler, then the sampler must relinquish the samples by signing the chain of custody form and the person receiving the samples must sign for the samples. **Samples must be under chain of custody at all times.**

24. Transport the samples in a manner consistent with the RFETS Transportation Manual to Roger Cichorz (966-2155, pager 212-3185, Room 292, Building 881), the Analytical Services Division (ASD) representative for the job. Formally relinquish custody for the samples. **Samples must be under chain of custody at all times.**

> **NOTE:** At present, asbestos analysis is carried out on the RFETS site in Building 881 by Reservoirs Environmental Services, so a Property / Waste Release Evaluation (P/WRE) is not required. If samples ARE to be transported off site, the RCT must fill out a Radiological Survey Form corresponding to the samples that are to be shipped. Then, contact the Radiological Engineer in charge of preparing P/WREs and provide that individual with the completed form. At the time of preparation of this document, that individual is Arlan Moore (966-6385).

Radiological Control Technician Foreman
25. Review all radiological records for completeness, complete the attached Signature Sheet, and return the

Survey Area: Group A	Survey Unit: N/A	Building: 709

Survey Unit Description
Characterization Instruction for Group A Buildings

completed package to the Certified Asbestos Inspector.

Sampler
26. Provide the RLC project representative with the completed Characterization Instruction including Signature Sheet, Asbestos Sampling Data Sheet, associated maps, photos, and other documentation relevant to the samples collected.

27. Dispose of all PPE as per the requirements of the area under survey.

42

P1

Survey Area: Group A	Survey Unit: N/A	Building: 709
Survey Unit Description Characterization Instruction for Group A Buildings		

SURVEY SIGNATURE SHEET

Surface Contamination Survey Performed By

Rex Snyder	[redacted]		8-11-99
RCT Printed Name		RCT Signature	Date
RCT Printed Name	Employee #	RCT Signature	Date
RCT Printed Name	Employee #	RCT Signature	Date

Core Sampling for Metals TCLP Analysis Performed By

D. Lippincott	[redacted]		8-13-99
Sampling Technician Printed Name		Sampling Technician Signature	Date
JEN WINGARD			8/13/99
Sampling Technician Printed Name		Sampling Technician Signature	Date
Tom Goocsby			8/16/99
Sampling Technician Printed Name		Sampling Technician Signature	Date

Sludge Sampling for Metals TCLP Analysis Performed By

D. Lippincott	[redacted]		8-13-99
Sampling Technician Printed Name		Sampling Technician Signature	Date
JEN WINGARD			8/13/99
Sampling Technician Printed Name		Sampling Technician Signature	Date
Sampling Technician Printed Name	Employee #	Sampling Technician Signature	Date

Survey Area: Group A	Survey Unit: N/A	Building: 709
Survey Unit Description Characterization Instruction for Group A Buildings		

Sludge Sampling for Isotopic Analysis Performed By

D. LiPPincott Sampling Technician Printed Name	[redacted]	D. Z[illegible] Sampling Technician Signature	8-13-99 Date
JEN WINGARD Sampling Technician Printed Name		Jen Wingard Sampling Technician Signature	8/13/99 Date
Sampling Technician Printed Name	Employee #	Sampling Technician Signature	Date

Asbestos Sampling Performed By

Andre Gonzalez Certified Asbestos Inspector Printed Name	[redacted]	[signature] Certified Asbestos Inspector Printed Name	8-12-99 Date

Surface Contamination Monitor Performed By

Rex Snyder ~~Engineers~~ RCT Printed Name	[redacted]	[signature] ~~Engineer's~~ RCT Signature	8-11-99 Date
Engineer's Printed Name	Employee #	Engineer's Signature	Date

Survey Reviewed By

LN Cooper RCT Foreman Printed Name	[redacted]	[signature] RCT Foreman Signature	8-16-99 Date

Survey Area: Group A	Survey Unit: N/A	Building: 709
Survey Unit Description Characterization Instruction for Group A Buildings		

SURFACE MEDIA DATA FORM

Lab Sample Number	Sample Location Number	Sample Surface Area (in^2)	Pre-Sample Total Activity Measurement (dpm/100 cm^2)	Pre Sample Removable Activity Number	Post Sample Total Activity Measurement (dpm/100 cm^2)	Post Sample Removable Activity Number
	1	40		1A		1B
	2	40		2A		2B
	3	40		3A		3B
	4	40		4A		4B
	5	40		5A		5B
	6	40		6A		6B
	7	40		7A		7B
	8	40		8A		8B
	9	40		9A		9B
	10	40		10A		10B
	11	40		11A		11B
	12	40		12A		12B
	13	40		13A		13B
	14	40		14A		14B
	15	40		15A		15B
	16	40		16A		16B
	17	40		17A		17B

Remarks

Survey Area: Group A	Survey Unit: N/A	Building: 709
Survey Unit Description Characterization Instruction for Group A Buildings		

SURVEY MAP

Floor ft²: N/A	Total ft²: 1900		
Rex Snyder	[redacted]		8-11-99
RCT Printed Name		RCT Signature	Date
RCT Printed Name	Employee #	RCT Signature	Date

(#) - Survey Measurement Location

LAB Location - Local Area Background Location

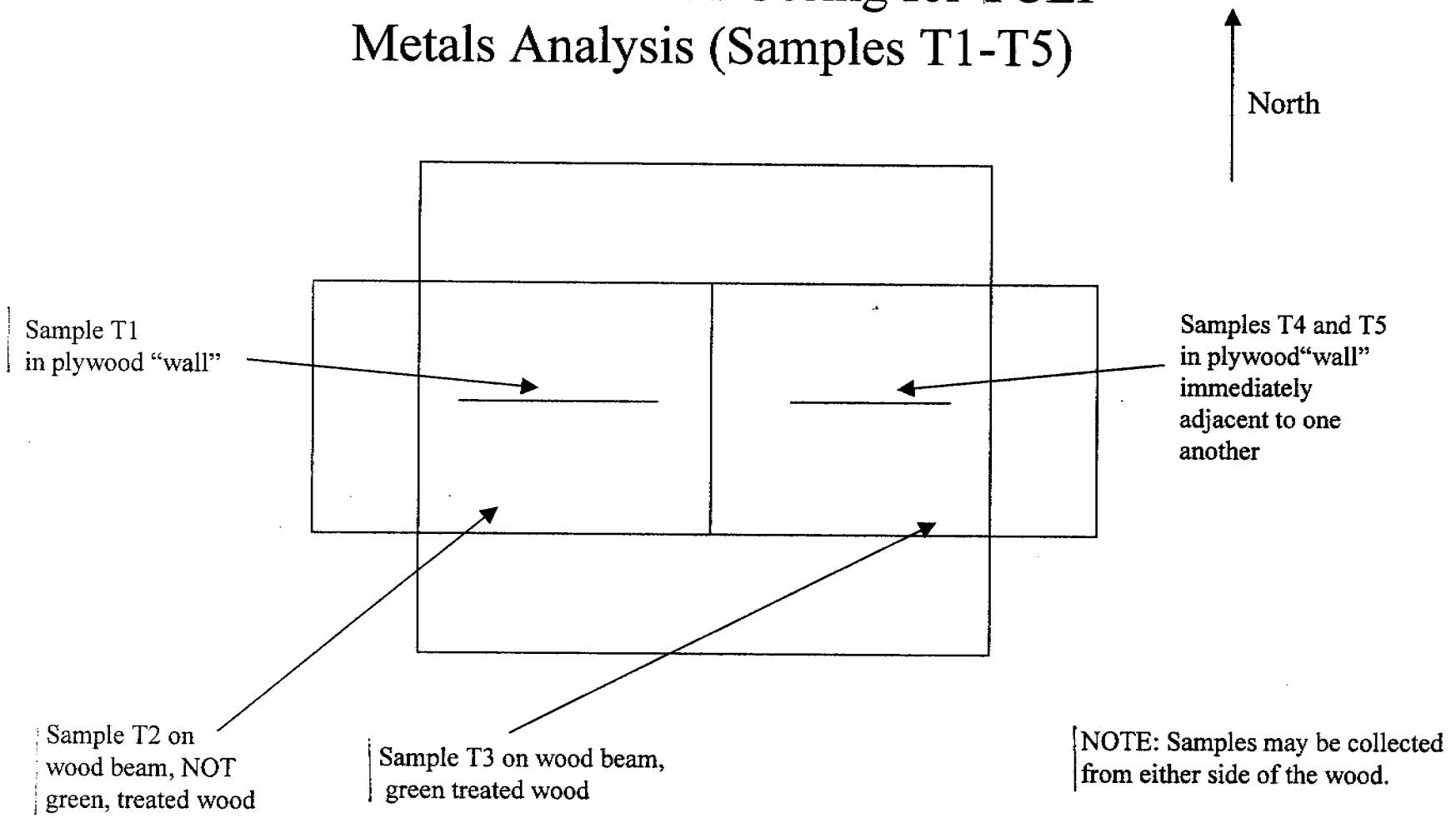
* - Elevated Survey Measurement Location

Scan Survey Location

Paint/Surface/Solid Media Sample

Building 709 - Floor and Walls

Locations of Wood Coring for TCLP Metals Analysis (Samples T1-T5)



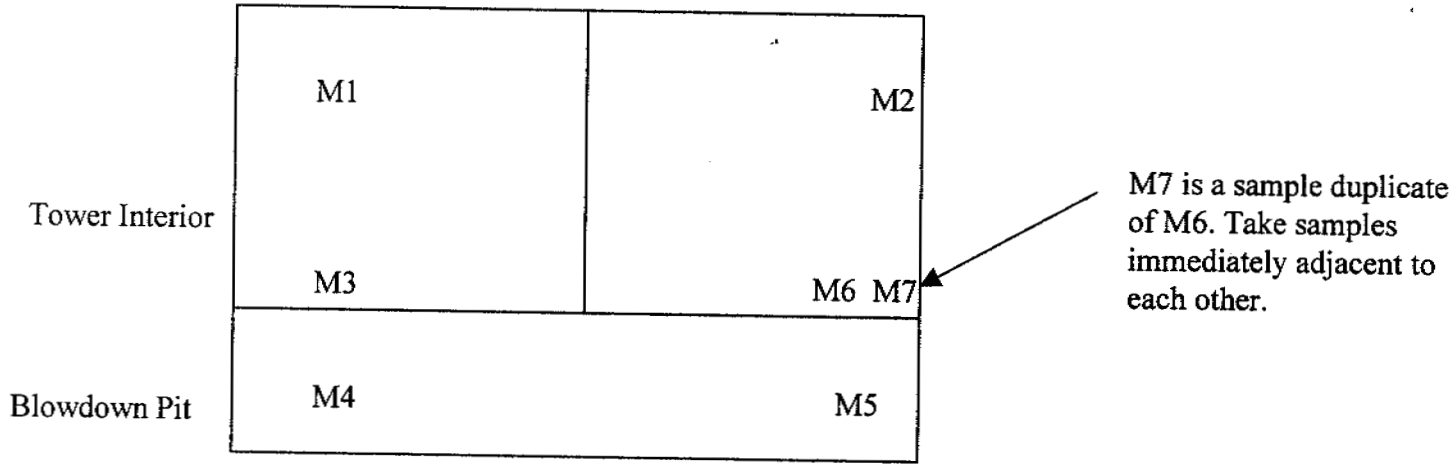
Group A RLCP Survey

Building 709 - Floor and Walls

Locations of Sludge Sampling for:

Total Metals Analysis (Samples M1-M7)

Isotopic Analysis (Same locations, except no duplicate at M7 position)



Survey Area: Group A	Survey Unit: N/A	Building: 910
Survey Unit Description Characterization Instruction for Group A Buildings		

CHARACTERIZATION INSTRUCTION COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☒ Asbestos, Beryllium

Special Support Requirements

Ladder, scaffolding, or man-lift. Media samplers to take paint samples from floor.

Special Safety Precautions

Fall protection is required for work above 6 ft.
Refer to Activity Hazards Analysis and 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

Obtain pre-printed, uniquely numbered sample labels from ASD or RLC project representative.

Characterization Instruction Implementation

This survey package is ready for implementation. Adequate detail is provided to allow implementation by the sampling team. DQO's and data evaluation requirements are covered in the *Decontamination and Decommissioning Characterization Protocol*, MAN-077-DDCP.

Preparer Printed Name	[redacted]	Preparer Signature	Date
PAUL A WOJIASZEK		Paul A Wojiaszek	04/21/99
Reviewer Printed Name		**Reviewer Signature**	**Date**
MARK C. BROOKS		Mark C Brooks	4-21-99

49

R1

Survey Area: Group A	Survey Unit: N/A	Building: 910
Survey Unit Description Characterization Instruction for Group A Buildings		

SAMPLING AND SURVEY INSTRUCTIONS

Minimum Survey & Sample Measurement Requirements

Measurement	Amount & Type	Comments
Media samples for asbestos analysis	3 total	Collect from homogeneous area of roof; Sampler must be a **Certified Asbestos Inspector**.
Smear samples for beryllium analysis	4 total smears (3 plus duplicate)	Sampler must be an **industrial hygiene representative**; Collect according to attached map.
Paint chip samples for isotopic analysis	30 total (10 on ground level, 10 in basement, 10 on exterior surface)	10 media samples will be taken on the interior of the building on the first floor, and 10 media samples will be taken on the interior of the building in the basement. 10 media samples will also be taken on the exterior walls. All samples on the interior will be taken on the floor. On the first floor, 1) 6 media samples will be taken in the equipment skids, 2) 3 media samples will be taken in the aisles and 3) 1 media sample will be taken in the bermed area. In the basement, 1) 4 media samples will be taken around the floor drains and 2) 6 media samples will be taken in the equipment skids. On the exterior, 1) 3 media samples will be taken on each of the north and south walls at a height less than 2 meters and 2) 2 media samples will be taken on the east and west walls at a height less than 2 meters.

NOTE: A Property / Waste Release Evaluation (P/WRE) is required for all analytical samples to be transported offsite for analysis. However, the instructions for RCTs and Radiological Operations Foreman in the following sections may be waived if it is deemed by Radiological Engineering (Arlan Moore) that no assay is required due to building history and process knowledge, per 3-PRO-141-RSP 09.01, *Unrestricted Release of Property, Material, Equipment, and Waste.*

Sampling Instructions

1.0 Media samples for asbestos analysis

NOTE: The sampler SHALL be a Certified Asbestos Inspector.

Certified Asbestos Inspector

1. Coordinate with Bldg. 910 management for Plan of the Day (POD) control by contacting Ty Vess, 966-6540.

2. Obtain all required documents and permits. This includes:

- For Integrated Work Control Planning (IWCP):
- Activity Screening Form (ASF)
- Job Hazard Analysis (JHA) including applicable Activity Hazard Assessments (AHA)
- Radiological Work Permit (RWP)
- Health and Safety Plan (HASP)

Consult with Industrial Hygiene and with Radiological Operations to determine any other permits or notifications required.

Inform Wackenhut Security dispatch at 966-2444 before accessing the roof.

The sampler must be medically qualified and monitored for asbestos exposure within a medical survillance program, and must wear protective gloves, safety glasses, safety shoes, and modesty clothing, with additional PPE if deemed necessary by IH&S.

3. Visually verify sample location against written descriptions.

4. Confirm that the appropriate pre-numbered label exists for each sample location.

Radiological Control Technician (RCT)

5. Obtain pre-media sampling 100 cm^2 total measurements at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

6. Obtain pre-media sampling 100 cm^2 removable swipes at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

7. Analyze swipes and record both results per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.* If a selected location is determined to exceed acceptable parameters, a second location must be selected. Should no radiologically acceptable location be found, a contaminated sample may be acquired and treated accordingly.

Survey Area: Group A	Survey Unit: N/A	Building: 910

Survey Unit Description
Characterization Instruction for Group A Buildings

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Certified Asbestos Inspector
8. Secure a polyethylene drop cloth or a baggie below the sample area but above the floor.

9. Wet the immediate sample area is with a mist of water and surfactant.

10. Select a sampling tool, such as a hammer and chisel, razor knife, "Wondermaker" or hole saw and acquire the sample, making sure to take a complete sample from the substrate. **Each sample must be a minimum of one cubic centimeter but no more than that necessary to be representative of the suspect material.** During this process, continually spray mist on the immediate surface as needed to preclude drying.

11. Place the sample in a sealable container, such as a plastic bag or vial.

Radiological Control Technician (RCT)
12. Obtain post-media sampling 100 cm^2 total measurements at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*.

13. Obtain post-media sampling 100 cm^2 removable swipes at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*.

14. Analyze swipes and record both results per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*. If the post-media sampling total measurements or swipes indicate that radiological contamination may have been removed with the sample, treat the sample as contaminated.

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Certified Asbestos Inspector
15. Seal the container and place the appropriate pre-numbered label on the container. Verify that the container is sealed.

16. Document the description and location on an Asbestos Sampling Data Sheet, place a sample label on the form, and document the the location on a blueprint or other suitable drawing.

17. Thoroughly clean the sampling tool using the mist sprayer and wipes.

18. Patch the sample area as needed.

19. Wet and wipe the sample container, drop cloth and immediate sample area. Carefully fold the drop cloth in toward the center and place it in a sealable bag, and seal the bag.

Radiological Control Technician (RCT)
20. If removable radiological contamination was suspected in the sampling area, assay the outside of the sample vials per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*. If the results of the assay indicate that radiological contamination exists, consult with Radiological Operations before proceeding.

21. Perform assays of sampling equipment as appropriate before removal from a potentially contaminated

S2

R1

area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

Certified Asbestos Inspector
22. Place all samples inside an additional plastic bag for transport. and place a tamper proof seal over the ziplock bag opening such that the seal or bag will be broken to gain access to the sample. Sign and date the tamper-proof seal. **This is the minimum packaging required for transport.**

23. Complete a Sample Analysis Request Form (available from ASD) and obtain a Chain of Custody Form from ASD. Write the sample number for each sample on the chain of custody form. Place the sample number label on the chain of custody papers.

> **NOTE:** If samples are to be transported to the laboratory by someone other than the sampler, then the sampler must relinquish the samples by signing the chain of custody form and the person receiving the samples must sign for the samples. **Samples must be under chain of custody at all times.**

24. Transport the samples in a manner consistent with the RFETS Transportation Manual to Roger Cichorz (966-2155, pager 212-3185, Room 292, Building 881), the Analytical Services Division (ASD) representative for the job. Formally relinquish custody for the samples. **Samples must be under chain of custody at all times.**

> **NOTE:** At present, asbestos analysis is carried out on the RFETS site in Building 881 by Reservoirs Environmental Services, so a Property / Waste Release Evaluation (P/WRE) is not required. If samples ARE to be transported off site, the RCT must fill out a Radiological Survey Form corresponding to the samples that are to be shipped. Then, contact the Radiological Engineer in charge of preparing P/WREs and provide that individual with the completed form. At the time of preparation of this document, that individual is Arlan Moore (966-6385).

Radiological Control Technician Foreman
25. Review all radiological records for completeness, complete the attached Signature Sheet, and return the completed package to the Certified Asbestos Inspector.

Sampler
26. Provide the RLC project representative with the completed Characterization Instruction including Signature Sheet, Asbestos Sampling Data Sheet, associated maps, photos, and other documentation relevant to the samples collected.

27. Dispose of all PPE as per the requirements of the area under survey.

2.0 Paint chip samples for isotopic analysis

Sampler
1. Coordinate with Bldg. 910 management for Plan of the Day (POD) control by contacting Ty Vess, 966-6540.

2. Obtain all required documents and permits. This includes:

- For Integrated Work Control Planning (IWCP):
- Activity Screening Form (ASF)
- Job Hazard Analysis (JHA) including applicable Activity Hazard Assessments (AHA)
- Radiological Work Permit (RWP)
- Health and Safety Plan (HASP)
- Property Release Evaluation form

Survey Area: Group A	Survey Unit: N/A	Building: 910

Survey Unit Description

Characterization Instruction for Group A Buildings

Consult with Industrial Hygiene and with Radiological Operations to determine any other permits or notifications required.

Consult with Industrial Hygiene and with Radiological Operations to determine any other permits or notifications required. Specifically, the hazard from lead in paint may require controls to be in compliance with OSHA Lead Standard.

3. Complete a Sample Analysis Request Form (available from ASD) and submit it to ASD. ASD will then assign RIN numbers to the samples.

4. Visually verify sample location against written descriptions on attached map. Confirm that the appropriate pre-numbered label exists for each sample location.

Radiological Control Technician (RCT)

5. Obtain pre-media sampling 100 cm^2 total measurements at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*.

6. Obtain pre-media sampling 100 cm^2 removable swipes at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

7. If the surface contains removable radioactivity, then the surface SHALL be decontaminated prior to paint chip sampling.

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Sampler

8. If sampling is to occur on a vertical suface, tape a sealable "Ziplock"-type plastic bag approximately 3 inches below the area to be scraped. To avoid possible sources of cross contamination, be sure that the tape bonding material does not come in contact with the inside of the plastic bag. For horizontal surfaces, an appropriate scoop, tongs, or other tool may be used to collect the sample into the jar.

9. Scrape the area using a putty knife or razor knife as appropriate. If available, a needle gun or a heat gun may be used, but an IH representative must be consulted to ensure proper controls.

10. Collect at least 7 grams of paint chips.

11. Transfer 2 grams of paint chips to the clean, properly labeled appropriately sized jar for Rad Screen.

12. Transfer the remaining sample (5 grams) to the clean, properly labeled appropriately sized jar for isotopic analysis.

13. **IMMEDIATELY** record the sample number and a detailed description of the sample in the Paint Sample Log.

14. Decontaminate sampling equipment before moving to the next sample. For one event, collect one deionized water rinsate sample after decontamination of equipment but before collecting the next sample. Collect both 4 liter and a 40 ml rinsates from the same event into separate, appropriately sized and labeled containers.

15. Transfer chain of custody of samples to the RCT for contamination survey if samples are to leave your

direct control.

Radiological Control Technician (RCT)
15. Obtain post-media sampling 100 cm^2 total measurements at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

16. Obtain post-media sampling 100 cm^2 removable swipes at each sampling location within the sample area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

17. Carry out smears of sampling equipment as appropriate before removal from a potentially contaminated area per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements.*

IMPORTANT: If any radiological measurement exceeds contamination limits stated in the Radiological Work Permit or in Table 2-2 in the Radiological Controls Manual, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Sampler
18. Write the sample number for each sample on the chain of custody form. Place the sample number label on the chain of custody papers.

> **NOTE:** If samples are to be transported by someone other than the sampler, then the sampler must relinquish the samples by signing the chain of custody form and the person receiving the samples must sign for the samples. **Samples must be under chain of custody at all times.**

20. When the P/WRE is prepared, transport the samples to T891R, except for Radscreen samples, which are to be transported to the Thermo NuTech Trailer. Formally relinquish custody for the samples to the laboratory. **Samples must be under chain of custody at all times.**

21. Dispose of all PPE as per the requirements of the area under survey.

Radiological Control Technician Foreman
22. Review the survey package for completeness, complete the attached Signature Sheet, and forward the survey package to Building Radiological Engineering for final disposition.

Sampler
23. Provide the RLC project representative with the Paint Sample Log, associated maps, photos, and other documentation relevant to the samples collected.

3.0 Smear samples for beryllium analysis

> ***NOTE:*** *Beryllium smear sampling **SHALL** be conducted by an IH technician who has been trained by IH&S on the procedure.*

Sampler:
1. Coordinate with Bldg. 910 management for Plan of the Day (POD) control by contacting Ty Vess, 966-6540.

Survey Area: Group A	Survey Unit: N/A	Building: 910

Survey Unit Description

Characterization Instruction for Group A Buildings

2. Obtain all required documents and permits. This includes:

- For Integrated Work Control Planning (IWCP):
- Activity Screening Form (ASF)
- Job Hazard Analysis (JHA) including applicable Activity Hazard Assessments (AHA)
- Radiological Work Permit (RWP)
- Health and Safety Plan (HASP)

Consult with Industrial Hygiene and with Radiological Operations to determine any other permits or notifications required.

3. Ensure that all required materials listed below are in hand before proceding to the survey area, as well as any required PPE, safety shoes, safety glasses, bump cap, or hard hat.

> ***NOTE: Be sure to don disposable gloves before initiation of sampling, and change them as often as necessary.***

- Whatman 41, 4.7 cm filter papers, numbered.
- Glassine Bags
- Template that sequesters a100 cm^2 pattern
- Sample Log for Beryllium Surface Sampling
- Chain of Custody Form (from Industrial Hygiene)
- Tamper Proof Seals
- Sharpie marking pen (*Important: Other markers may not write well on glassine bags.)*
- Disposable gloves
- Tweezers
- Map of area **(attached)**
- List of predetermined sampling locations **(attached)**
- **Breathing zone air sampling equipment (consult an IH for assistance)**

4. Complete a Sample Analysis Request Form (available from ASD) and submit it to ASD. ASD will then assign RIN numbers to the samples.

5. Upon entering the survey area, consult the attached map and locate the sampling areas.

6. Write each sample number on an individual glassine bag, and record the sample sequence number and the survey map point (i.e., B1, B2, etc., see attached map) of each sample in the Beryllium Sample Log provided by the project manager. In the description column, describe the surface upon which the sample was taken in enough detail that it could be located by another individual (e.g., "South side of top surface of cylindrical door assembly,").

7. Hold the 100 cm^2 template above the sampling location *so that it does not touch the surface*, and dry wipe the area bounded by the template using Whatman 41 filter papers. *Grasp the Whatman filter by the edge.* It is important to wipe the entire area, and to carry out the wipe in a consistent manner.

> **CAUTION:** Collect the sample in a manner that your gloved hands will not come in contact with the surface being sampled. If contact is made, the sampler **SHALL** change gloves before collecting the next sample.

8. Carefully place the filter in the appropriately labeled glassine bag.

56

P1

9. When finished with all sampling, remove the breathing zone air filter cartridge, replace the plugs on the breathing zone air filter cartridge, and seal the sides with Chain of Custody Seal or appropriate adhesive such that integrity of the cartridge may not be broken without breaking the seal.

10. Surrender Chain of Custody of all collected samples, and the breathing zone air filter cartridge and filter, to the RCT assigned to the job. Chain of Custody forms are available from Industrial Hygiene.

Radiological Control Technician:
11. Don gloves and use tweezers to remove the filter from the bag, being careful not to tear it.

12. Carry out a documented survey of each filter. Count each sample separately on both a SAC-4 and a BC-4 to assess radiological contamination per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*, and write the data on the Radiological Survey Form. **Be very careful to ensure that the proper filter is returned to the proper glassine bag.**

13. Carry out a documented survey of the breathing zone air sampling filter, and swipe the outside of the cartridge and carry out a documented survey on it. **Do not break the seal on the cartridge.** Count each sample separately on both a SAC-4 and a BC-4 to assess radiological contamination per 3-PRO-165-RSP 07.02, *Contamination Monitoring Requirements*, and write the data on the Radiological Survey Form

> **NOTE**: If any radiological measurement exceeds contamination limits put forth in the Radiological Work Permit, **cease operations and consult with Radiological Operations and with Radiological Engineering before proceeding**.

Radiological Operations Foreman
14. Review and sign the Radiological Survey Form. This is absolutely required for preparation of the Property/ Waste Release Evaluation (P/WRE).

Sampler:
15. Accept Chain of Custody of the samples back from the RCT by completing the Chain of Custody form.

16. Place the glassine bags inside of a ziplock bag, and place a tamper proof seal over the ziplock bag opening such that the seal or bag will be broken to gain access to the sample. Sign and date the tamper-proof seal. **This is the minimum packaging required for transport.**

> **NOTE:** If samples are to be transported by someone other than the sampler, then the sampler must relinquish the samples by signing the chain of custody form and the person receiving the samples must sign for the samples. **Samples must be under chain of custody at all times.**

17. Contact Arlan Moore (966-6385, Pager 212-6576), the Radiological Engineer in charge of preparing Property / Waste Release Evaluations (P/WRE) and provide him with the filled out Radiological Survey Form corresponding to the samples that are to be shipped.

18. When the P/WRE is prepared, transport the samples to T891R. Formally relinquish custody for the samples to the laboratory. **Samples must be under chain of custody at all times.**

Radiological Control Technician Foreman
19. Review all radiological records for completeness, complete the attached Survey Signature Sheet, and return the completed package to the sampler.

Sampler
20. Provide the RLC project representative with the completed Characterization Instruction including Signature

Survey Area: Group A	Survey Unit: N/A	Building: 910

Survey Unit Description
Characterization Instruction for Group A Buildings

Sheet, the Beryllium Sampling Log, associated maps, photos, and other documentation relevant to the samples collected.

21. Dispose of all PPE as per the requirements of the area under survey.

58

Survey Area: Group A	Survey Unit: N/A	Building: 910
Survey Unit Description Characterization Instruction for Group A Buildings		

SURVEY SIGNATURE SHEET

Surface Contamination Survey Performed By

Rex Snyder	[redacted]	R F Snyder	8-11-99
RCT Printed Name		RCT Signature	Date
RCT Printed Name	Employee #	RCT Signature	Date
RCT Printed Name	Employee #	RCT Signature	Date

Beryllium Sampling Performed By

DAVID F. FARLER	[redacted]	D F Farler	8/13/99
I.H. Technician Printed Name		I.H. Technician Signature	Date
I.H. Technician Printed Name	Employee #	I.H. Technician Signature	Date
I.H. Technician Printed Name	Employee #	I.H. Technician Signature	Date

Asbestos Sampling Performed By

Andre Gonzales	[redacted]	[illegible]	8-12-99
Certified Asbestos Inspector Printed Name		Certified Asbestos Inspector Printed Name	Date

Survey Area: Group A	Survey Unit: N/A	Building: 910
Survey Unit Description Characterization Instruction for Group A Buildings		

Paint Chip Sampling for Isotopic Analysis Performed By

D. Lippincott Sampling Technician Printed Name	[redacted]	D. Lippincott Sampling Technician Signature	8-13-99 Date
JEN WINGARD Sampling Technician Printed Name		jen wingard Sampling Technician Signature	8/13/99 Date
Sampling Technician Printed Name	Employee #	Sampling Technician Signature	Date

Surface Contamination Monitor Performed By

Rex Snyder Engineers Printed Name	[redacted]	Engineer's Signature	8-11-99 Date
Engineer's Printed Name	Employee #	Engineer's Signature	Date

Survey Reviewed By

CN Cooper RCT Foreman Printed Name	[redacted]	RCT Foreman Signature	8-16-99 Date

SURFACE MEDIA DATA FORM

Lab Sample Number	Sample Location Number	Sample Surface Area (in^2)	Pre-Sample Total Activity Measurement (dpm/100 cm^2)	Pre Sample Removable Activity Number	Post Sample Total Activity Measurement (dpm/100 cm^2)	Post Sample Removable Activity Number
	1	40		1A		1B
	2	40		2A		2B
	3	40		3A		3B
	4	40		4A		4B
	5	40		5A		5B
	6	40		6A		6B
	7	40		7A		7B
	8	40		8A		8B

Survey Area: Group A	Survey Unit: N/A	Building: 910

Survey Unit Description

Characterization Instruction for Group A Buildings

	9	40		9A		9B
	10	40		10A		10B
	11	40		11A		11B
	12	40		12A		12B
	13	40		13A		13B
	14	40		14A		14B
	15	40		15A		15B
	16	40		16A		16B
	17	40		17A		17B

Remarks

Survey Area: Group A	Survey Unit: N/A	Building: 910
Survey Unit Description Characterization Instruction for Group A Buildings		

SURVEY MAP

Floor ft²: N/A	Total ft²: 9563		
Rex Snyder	[redacted]		8-11-99
RCT Printed Name		RCT Signature	Date
RCT Printed Name	Employee #	RCT Signature	Date

(#) - Survey Measurement Location

LAB - Local Area Background Location

* - Elevated Survey Measurement Location

Scan Survey Location

Paint/Surface/Solid Media Sample

102

Survey Area: Group A	Survey Unit: Not Applicable	Building: 904 Pad, tent 8
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SAMPLING AND SURVEY INSTRUCTIONS

Minimum Survey & Sample Measurement Requirements

Measurement	Amount & Type	Comments
Surface Activity Measurements:	30 –surveys on the floor and walls < 2 meters on interior building surfaces. 10 –surveys on the ceiling and walls > 2 meters on interior building surfaces. 30 –surveys on exterior walls and roof of the building.	Representative surveys of the area will be taken for total and removable, alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Surface Scanning:	30 – scan surveys on the floor and walls < 2 meters on interior building surfaces.	A 1 m^2 scan surveys will be performed at each location where total and removable surveys are being taken. Scan surveys of the area will be taken for alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Media Samples:	None	None
Volumetric Samples:	None	None

Surface Contamination and Media Sampling Instructions

1. RCT - For all Total surveys, utilize the NE Electra radiation detection instrument.
2. RCT – Obtain scan measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements*.
3. RCT – Obtain the representative removable and total surface activity measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements*. Obtain total measurements first.
4. RCT – Analyze swipes and record results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements*. Attach the swipe results to the survey package.
5. RCT – Record all scan survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements*. Attach the scan results to the survey package.
6. RCT – Record all total survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements*. Attach the total results to the survey package.
7. RCT Foreman – Review the final survey package for completeness, complete the attached Survey Signature Sheet and forward the survey package to Building Radiological Engineering for final disposition.

63

16/26, RØ

Survey Area: Group A	Survey Unit: Not Applicable	Building: 904 Pad, tent 9
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SURVEY PACKAGE COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☐ _____

Special Support Requirements

Not Applicable

Special Safety Precautions

Per 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

Not Applicable

Survey Package Implementation

This survey package is ready for implementation.

R.S. Roberts	[redacted]		3/15/99
Radiological Engineer Printed Name		Radiological Engineer Signature	Date
GARY D GUINN	[redacted]		3/15/99
RE Peer Review Printed Name	Employee #	RE Peer Review Signature	Date

Survey Package Closure

All required reviews are complete, and data analysis results meet RLCP criteria. Survey package is authorized for closure.

Radiological Engineer Printed Name	Employee #	Radiological Engineer Signature	Date
RE Manager Printed Name	Employee #	RE Manager Signature	Date

Survey Area: Group A	Survey Unit: Not Applicable	Building: 904 Pad, tent 9
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SAMPLING AND SURVEY INSTRUCTIONS

Minimum Survey & Sample Measurement Requirements

Measurement	Amount & Type	Comments
Surface Activity Measurements:	30 –surveys on the floor and walls < 2 meters on interior building surfaces. 10 –surveys on the ceiling and walls > 2 meters on interior building surfaces. 30 –surveys on exterior walls and roof of the building.	Representative surveys of the area will be taken for total and removable, alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Surface Scanning:	30 – scan surveys on the floor and walls < 2 meters on interior building surfaces.	A 1 m^2 scan surveys will be performed at each location where total and removable surveys are being taken. Scan surveys of the area will be taken for alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Media Samples:	None	None
Volumetric Samples:	None	None

Surface Contamination and Media Sampling Instructions

1. RCT - For all Total surveys, utilize the NE Electra radiation detection instrument.
2. RCT – Obtain scan measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
3. RCT – Obtain the representative removable and total surface activity measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Obtain total measurements first.
4. RCT – Analyze swipes and record results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the swipe results to the survey package.
5. RCT – Record all scan survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the scan results to the survey package.
6. RCT – Record all total survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the total results to the survey package.
7. RCT Foreman – Review the final survey package for completeness, complete the attached Survey Signature Sheet and forward the survey package to Building Radiological Engineering for final disposition.

65

18/26, RP

Survey Area: Group A	Survey Unit: Not Applicable	Building: 904 Pad, Tent 10
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SURVEY PACKAGE COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☐ _____

Special Support Requirements

Not Applicable

Special Safety Precautions

Per 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

Not Applicable

Survey Package Implementation

This survey package is ready for implementation.

P.S. Roberts	[redacted]		3/15/99
Radiological Engineer Printed Name		Radiological Engineer Signature	Date
GARY D GUINN	[redacted]		3/15/99
RE Peer Review Printed Name	Employee #	RE Peer Review Signature	Date

Survey Package Closure

All required reviews are complete, and data analysis results meet RLCP criteria. Survey package is authorized for closure.

Radiological Engineer Printed Name	Employee #	Radiological Engineer Signature	Date
RE Manager Printed Name	Employee #	RE Manager Signature	Date

Survey Area: Group A	**Survey Unit:** Not Applicable	**Building:** 904 Pad, Tent 10
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SAMPLING AND SURVEY INSTRUCTIONS

Minimum Survey & Sample Measurement Requirements

Measurement	Amount & Type	Comments
Surface Activity Measurements:	30 –surveys on the floor and walls < 2 meters on interior building surfaces. 10 –surveys on the ceiling and walls > 2 meters on interior building surfaces. 30 –surveys on equipment present > 2 meters high in the interior of the building. 30 –surveys on exterior walls and roof of the building.	Representative surveys of the area will be taken for total and removable, alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Surface Scanning:	30 – scan surveys on the floor and walls < 2 meters on interior building surfaces.	A 1 m^2 scan surveys will be performed at each location where total and removable surveys are being taken. Scan surveys of the area will be taken for alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Media Samples:	None	None
Volumetric Samples:	None	None

Surface Contamination and Media Sampling Instructions

1. RCT - For all Total surveys, utilize the NE Electra radiation detection instrument.
2. RCT – Obtain scan measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
3. RCT – Obtain the representative removable and total surface activity measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Obtain total measurements first.
4. RCT – Obtain removable and total surface activity measurements for equipment per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* A representative survey of exposed surfaces of equipment will be performed. Obtain total measurements first.
5. RCT – Analyze swipes and record results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the swipe results to the survey package.
6. RCT – Record all scan survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the scan results to the survey package.
7. RCT – Record all total survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the total results to the survey package.
8. RCT Foreman – Review the final survey package for completeness, complete the attached Survey Signature Sheet and forward the survey package to Building Radiological Engineering for final disposition.

Survey Area: Group A	Survey Unit: Not Applicable	Building: 904 Pad, Tent 10 PERMACON
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SURVEY PACKAGE COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☐ _____

Special Support Requirements

Not Applicable

Special Safety Precautions

Per 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

Not Applicable

Survey Package Implementation

This survey package is ready for implementation.

R.S. Roberts	[redacted]		3/15/99
Radiological Engineer Printed Name		Radiological Engineer Signature	Date
GARY D GUINN			3/15/99
RE Peer Review Printed Name		RE Peer Review Signature	Date

Survey Package Closure

All required reviews are complete, and data analysis results meet RLCP criteria. Survey package is authorized for closure.

Radiological Engineer Printed Name	Employee #	Radiological Engineer Signature	Date
RE Manager Printed Name	Employee #	RE Manager Signature	Date

68

21/26, RØ

Survey Area: Group A	Survey Unit: Not Applicable	Building: 904 Pad, Tent 10 PERMACON
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SAMPLING AND SURVEY INSTRUCTIONS

Minimum Survey & Sample Measurement Requirements

Measurement	Amount & Type	Comments
Surface Activity Measurements:	30 –surveys on the floor and walls < 2 meters on interior building surfaces. 10 –surveys on the ceiling and walls > 2 meters on interior building surfaces. 30 –surveys on exterior walls and roof of the building.	Representative surveys of the area will be taken for total and removable, alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Surface Scanning:	30 – scan surveys on the floor and walls < 2 meters on interior building surfaces.	A 1 m^2 scan surveys will be performed at each location where total and removable surveys are being taken. Scan surveys of the area will be taken for alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Media Samples:	None	None
Volumetric Samples:	None	None

Surface Contamination and Media Sampling Instructions

1. RCT - For all Total surveys, utilize the NE Electra radiation detection instrument.
2. RCT – Obtain scan measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
3. RCT – Obtain the representative removable and total surface activity measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Obtain total measurements first.
4. RCT – Analyze swipes and record results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the swipe results to the survey package.
5. RCT – Record all scan survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the scan results to the survey package.
6. RCT – Record all total survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the total results to the survey package.
7. RCT Foreman – Review the final survey package for completeness, complete the attached Survey Signature Sheet and forward the survey package to Building Radiological Engineering for final disposition.

69

22/26/R

Survey Area: Group A	Survey Unit: Not Applicable	Building: 904 Pad, Tent 11
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SURVEY PACKAGE COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☐ _____

Special Support Requirements

Not Applicable

Special Safety Precautions

Per 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

Not Applicable

Survey Package Implementation

This survey package is ready for implementation.

R.S. Roberts	[redacted]		3/15/99
Radiological Engineer Printed Name		Radiological Engineer Signature	Date
GARY D GUINN		Gary D Guinn	3/15/99
RE Peer Review Printed Name		RE Peer Review Signature	Date

Survey Package Closure

All required reviews are complete, and data analysis results meet RLCP criteria. Survey package is authorized for closure.

Radiological Engineer Printed Name	Employee #	Radiological Engineer Signature	Date
RE Manager Printed Name	Employee #	RE Manager Signature	Date

23/26/.

Survey Area: Group A	Survey Unit: Not Applicable	Building: 904 Pad, Tent 11
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SAMPLING AND SURVEY INSTRUCTIONS

Minimum Survey & Sample Measurement Requirements

Measurement	Amount & Type	Comments
Surface Activity Measurements:	30 –surveys on the floor and walls < 2 meters on interior building surfaces. 10 –surveys on the ceiling and walls > 2 meters on interior building surfaces. 30 –surveys on equipment present > 2 meters high in the interior of the building. 30 –surveys on exterior walls and roof of the building.	Representative surveys of the area will be taken for total and removable, alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Surface Scanning:	30 – scan surveys on the floor and walls < 2 meters on interior building surfaces.	A 1 m^2 scan surveys will be performed at each location where total and removable surveys are being taken. Scan surveys of the area will be taken for alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Media Samples:	None	None
Volumetric Samples:	None	None

Surface Contamination and Media Sampling Instructions

1. RCT - For all Total surveys, utilize the NE Electra radiation detection instrument.
2. RCT – Obtain scan measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
3. RCT – Obtain the representative removable and total surface activity measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Obtain total measurements first.
4. RCT – Obtain removable and total surface activity measurements for equipment per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* A representative survey of exposed surfaces of equipment will be performed. Obtain total measurements first.
5. RCT – Analyze swipes and record results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the swipe results to the survey package.
6. RCT – Record all scan survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the scan results to the survey package.
7. RCT – Record all total survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the total results to the survey package.
8. RCT Foreman – Review the final survey package for completeness, complete the attached Survey Signature Sheet and forward the survey package to Building Radiological Engineering for final disposition.

71

Survey Area: Group A	Survey Unit: Not Applicable	Building: 904 Pad, Tent 11 PERMACON
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SURVEY PACKAGE COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☐ _____

Special Support Requirements

Not Applicable

Special Safety Precautions

Per 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

Not Applicable

Survey Package Implementation

This survey package is ready for implementation.

R.S. Roberts	[redacted]		3/15/99
Radiological Engineer Printed Name		Radiological Engineer Signature	Date
GARY D GUINN		Gary D Guinn	3/15/99
RE Peer Review Printed Name		RE Peer Review Signature	Date

Survey Package Closure

All required reviews are complete, and data analysis results meet RLCP criteria. Survey package is authorized for closure.

Radiological Engineer Printed Name	Employee #	Radiological Engineer Signature	Date
RE Manager Printed Name	Employee #	RE Manager Signature	Date

72

25/26, RØ

Survey Area: Group A	**Survey Unit:** Not Applicable	**Building:** 904 Pad, Tent 11 PERMACON
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SAMPLING AND SURVEY INSTRUCTIONS

Minimum Survey & Sample Measurement Requirements

Measurement	Amount & Type	Comments
Surface Activity Measurements:	30 –surveys on the floor and walls < 2 meters on interior building surfaces. 10 –surveys on the ceiling and walls > 2 meters on interior building surfaces. 30 –surveys on exterior walls and roof of the building.	Representative surveys of the area will be taken for total and removable, alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Surface Scanning:	30 – scan surveys on the floor and walls < 2 meters on interior building surfaces.	A 1 m^2 scan surveys will be performed at each location where total and removable surveys are being taken. Scan surveys of the area will be taken for alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Media Samples:	None	None
Volumetric Samples:	None	None

Surface Contamination and Media Sampling Instructions

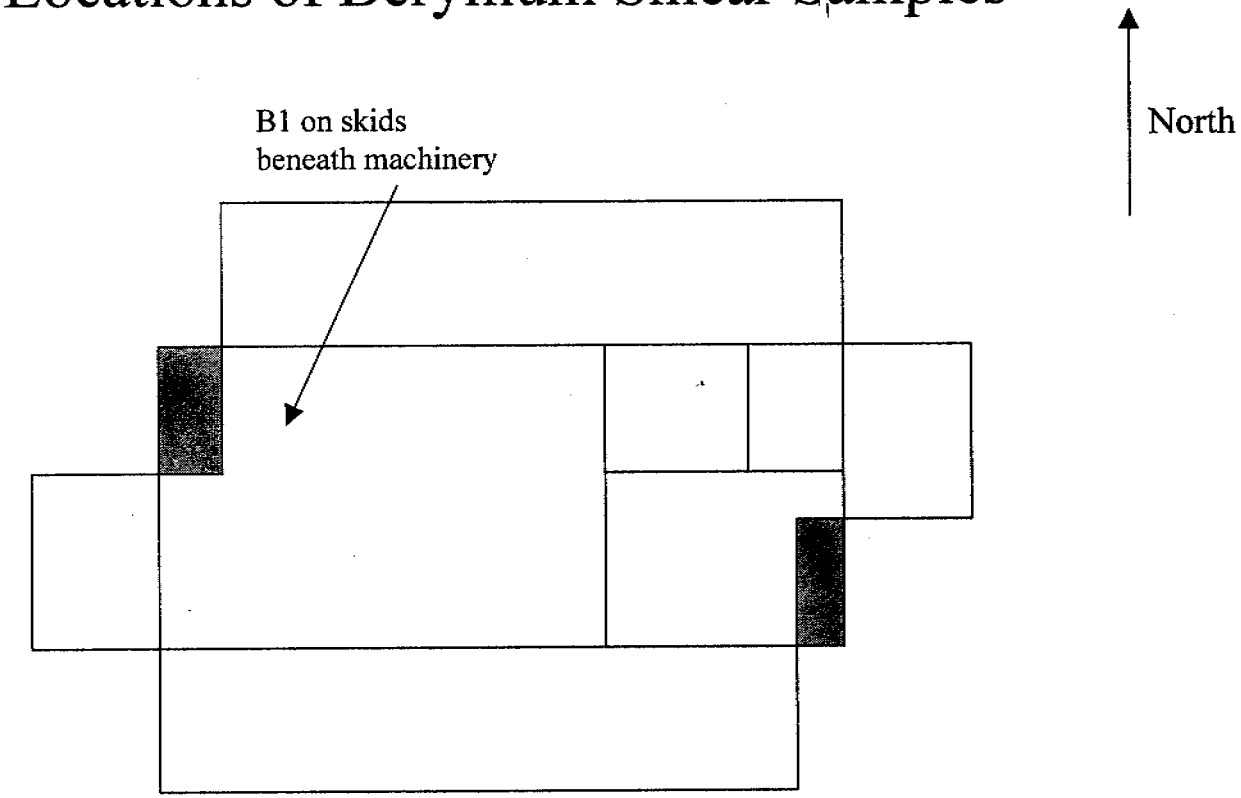
1. RCT - For all Total surveys, utilize the NE Electra radiation detection instrument.
2. RCT – Obtain scan measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
3. RCT – Obtain the representative removable and total surface activity measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Obtain total measurements first.
4. RCT – Analyze swipes and record results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the swipe results to the survey package.
5. RCT – Record all scan survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the scan results to the survey package.
6. RCT – Record all total survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the total results to the survey package.
7. RCT Foreman – Review the final survey package for completeness, complete the attached Survey Signature Sheet and forward the survey package to Building Radiological Engineering for final disposition.

73

26/26, RP

Building 910 - First Floor Floor & Walls

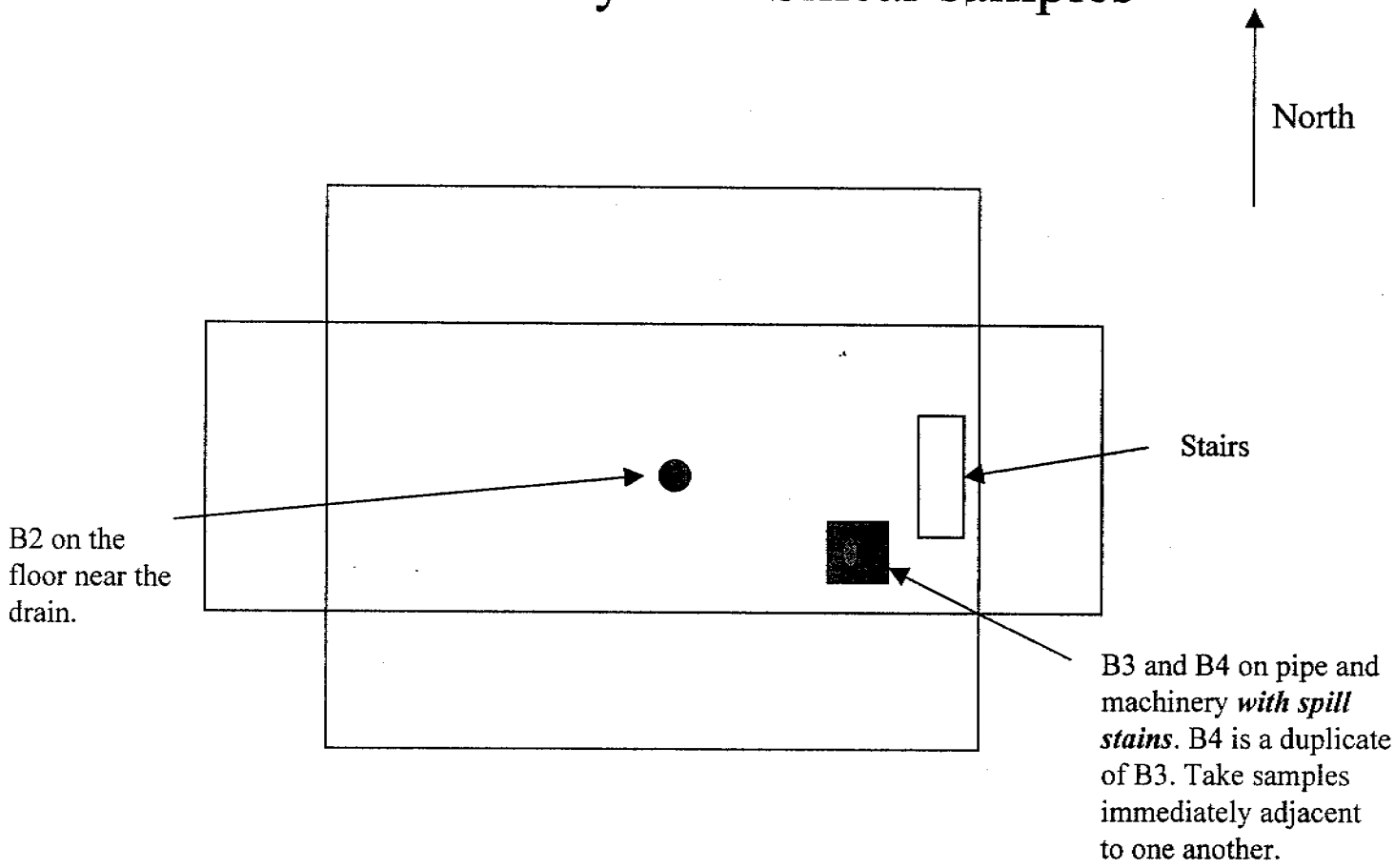
Locations of Beryllium Smear Samples



Group A RLCP Survey

Building 910 - Basement Floor & Walls

Locations of Beryllium Smear samples



Group A RLCP Survey

Survey Area: Group A	Survey Unit: N/A	Building: Pad 904 Tents
Survey Unit Description Characterization Instruction for Group A Buildings		

CHARACTERIZATION INSTRUCTION COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☒ Beryllium

Special Support Requirements

None.

Special Safety Precautions

Refer to Activity Hazards Analysis and 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

None.

Characterization Instruction Implementation

This survey package is ready for implementation. Adequate detail is provided to allow implementation by the sampling team. DQO's and data evaluation requirements are covered in the *Decontamination and Decommissioning Characterization Protocol*, MAN-077-DDCP.

Dave A Wojnaszek	[redacted]	Paul A Wojtanowicz	04/21/99
Preparer Printed Name		Preparer Signature	Date
Mark C Brooks		Mark C. Brooks	4-21-99
Reviewer Printed Name		Reviewer Signature	Date

SAMPLING INSTRUCTIONS

NOTE: Beryllium sampling is being carried out by the Chronic Beryllium Disease Prevention Program and will satisfy the project DQO's.

NOTE: Asbestos inspector will confirm that no potential asbestos-containing material exists in tents 10 and 11.

SURVEY PACKAGE

Survey Area: Group A	Survey Unit: Not Applicable	Building: 551
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SURVEY PACKAGE COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☐ _____

Special Support Requirements

Media Samplers to obtain paint samples of floor.

Special Safety Precautions

Per 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

Not Applicable

Survey Package Implementation

This survey package is ready for implementation.

R.S. Roberts	[redacted]		3/15/99
Radiological Engineer Printed Name		Radiological Engineer Signature	Date
GARY D GUINN		Gary D Guinn	3/15/99
RE Peer Review Printed Name	Employee #	RE Peer Review Signature	Date

Survey Package Closure

All required reviews are complete, and data analysis results meet RLCP criteria. Survey package is authorized for closure.

Radiological Engineer Printed Name	Employee #	Radiological Engineer Signature	Date
RE Manager Printed Name	Employee #	RE Manager Signature	Date

1/26, RØ

78

Survey Area: Group A	Survey Unit: Not Applicable	Building: 551
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SAMPLING AND SURVEY INSTRUCTIONS

Minimum Survey & Sample Measurement Requirements

Measurement	Amount & Type	Comments
Surface Activity Measurements:	62 –surveys on the floor and walls < 2 meters on interior building surfaces. 22 –surveys on the ceiling and walls > 2 meters on interior building surfaces. 31 –surveys on equipment present on the floor and walls < 2 meters in the interior of the building. 31 –surveys on equipment present > 2 meters high in the interior of the building. 30 –surveys on exterior walls and roof of the building.	Representative surveys of the area will be taken for total and removable, alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Surface Scanning:	62 – scan surveys on the floor and walls < 2 meters on interior building surfaces.	A 1 m^2 scan surveys will be performed at each location where total and removable surveys are being taken. Scan surveys of the area will be taken for alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Media Samples:	10 – paint sample on floor	Paint samples will be collected by the Analytical Projects Organization (APO). Collect pre and post total and removable surface activity measurements for alpha and beta/gamma contamination at each media sample location. Surveys of the area will be taken in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Volumetric Samples:	None	None

79

2/26, RØ

Survey Area: Group A	Survey Unit: Not Applicable	Building: 551
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

Surface Contamination and Media Sampling Instructions

1. RCT - For all Total surveys, utilize the NE Electra radiation detection instrument.
2. RCT – Obtain pre-media sampling 100cm^2 total measurements at each sample location (within the sample area) per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
3. RCT – Obtain pre-media sampling 100cm^2 removable swipes at each sample location (within the sample area) *per 3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*[1]
4. Media Sampler (APO) – Using an appropriate sampling tool, remove the surface material to a depth sufficient to expose the base material over the entire sample area.
5. Media Sampler (APO) – Repeat the above steps at each designated sample location.
6. Media Sampler (APO) – Disposition samples per APO Request Form requirements.
7. RCT – Obtain a post-media sampling 100cm^2 total measurement at each labeled sample location (within the marked sample area) per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
8. RCT – Obtain a post-media sampling 100cm^2 removable swipe at each labeled sample location (within the marked sample area) per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
9. RCT – Obtain scan measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
10. RCT – Obtain the remaining representative removable and total surface activity measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Obtain total measurements first.
11. RCT – Obtain remaining removable and total surface activity measurements for equipment per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* A representative survey of exposed surfaces of equipment will be performed. Obtain total measurements first.
12. RCT – Analyze swipes and record results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the swipe results to the survey package.
13. RCT – Record all scan survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the scan results to the survey package.
14. RCT – Record all total survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the total results to the survey package.
15. RCT Foreman – Review the final survey package for completeness, complete the attached Survey Signature Sheet and forward the survey package to Building Radiological Engineering for final disposition.

Footnote(s):

1. Prior to obtaining media samples, the sample location should be verified to be free of removable surface activity. If the surface contains removable contamination, then the surface shall be decontaminated prior to media sampling.

3/26, RP

80

Survey Area: Group A	Survey Unit: Not Applicable	Building: 662
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SURVEY PACKAGE COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☐ _____

Special Support Requirements

Not Applicable

Special Safety Precautions

Per 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

Not Applicable

Survey Package Implementation

This survey package is ready for implementation.

R.S. Roberts	[redacted]		3/15/99
Radiological Engineer Printed Name		Radiological Engineer Signature	Date
GARY D GUIND	[redacted]	Gary D Guind	3/15/99
RE Peer Review Printed Name	Employee #	RE Peer Review Signature	Date

Survey Package Closure

All required reviews are complete, and data analysis results meet RLCP criteria. Survey package is authorized for closure.

Radiological Engineer Printed Name	Employee #	Radiological Engineer Signature	Date
RE Manager Printed Name	Employee #	RE Manager Signature	Date

81

4/26, RP

Survey Area: Group A	Survey Unit: Not Applicable	Building: 662
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SAMPLING AND SURVEY INSTRUCTIONS

Minimum Survey & Sample Measurement Requirements		
Measurement	**Amount & Type**	**Comments**
Surface Activity Measurements:	30 –surveys on the floor and walls < 2 meters on interior building surfaces. 10 –surveys on the ceiling and walls > 2 meters on interior building surfaces. 15 –surveys on equipment present on the floor and walls < 2 meters in the interior of the building. 15 –surveys on equipment present > 2 meters high in the interior of the building. 30 –surveys on exterior walls and roof of the building.	Representative surveys of the area will be taken for total and removable, alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Surface Scanning:	30 – scan surveys on the floor and walls < 2 meters on interior building surfaces.	A 1 m^2 scan surveys will be performed at each location where total and removable surveys are being taken. Scan surveys of the area will be taken for alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Media Samples:	None	None
Volumetric Samples:	None	None

5/13/99

5/26, RP

82

Survey Area: Group A	Survey Unit: Not Applicable	Building: 662
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

Surface Contamination and Media Sampling Instructions

1. RCT - For all Total surveys, utilize the NE Electra radiation detection instrument.
2. RCT – Obtain scan measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
3. RCT – Obtain the representative removable and total surface activity measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements*. Obtain total measurements first.
4. RCT – Obtain removable and total surface activity measurements for equipment per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* A representative survey of exposed surfaces of equipment will be performed. Obtain total measurements first.
5. RCT – Analyze swipes and record results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the swipe results to the survey package.
6. RCT – Record all scan survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the scan results to the survey package.
7. RCT – Record all total survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the total results to the survey package.
8. RCT Foreman – Review the final survey package for completeness, complete the attached Survey Signature Sheet and forward the survey package to Building Radiological Engineering for final disposition.

83

Survey Area: Group A	Survey Unit: Not Applicable	Building: 709
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SURVEY PACKAGE COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☐ _____

Special Support Requirements

Media Samplers to obtain paint samples of floor.

Special Safety Precautions

Per 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

Not Applicable

Survey Package Implementation

This survey package is ready for implementation.

R.S. Roberts	[redacted]		3/15/99
Radiological Engineer Printed Name		Radiological Engineer Signature	Date
GARY D GUINN		Gary D Guinn	3/15/99
RE Peer Review Printed Name		RE Peer Review Signature	Date

Survey Package Closure

All required reviews are complete, and data analysis results meet RLCP criteria. Survey package is authorized for closure.

Radiological Engineer Printed Name	Employee #	Radiological Engineer Signature	Date
RE Manager Printed Name	Employee #	RE Manager Signature	Date

84

7/26, RØ

Survey Area: Group A	**Survey Unit:** Not Applicable	**Building:** 709
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SAMPLING AND SURVEY INSTRUCTIONS

Minimum Survey & Sample Measurement Requirements		
Measurement	**Amount & Type**	**Comments**
Surface Activity Measurements:	30 –surveys on the floor and walls < 2 meters on interior building surfaces. 10 –surveys on the ceiling and walls > 2 meters on interior building surfaces. 30 –surveys on exterior walls and roof of the building.	Representative surveys of the area will be taken for total and removable, alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Surface Scanning:	30 – scan surveys on the floor and walls < 2 meters on interior building surfaces.	A 1 m^2 scan surveys will be performed at each location where total and removable surveys are being taken. Scan surveys of the area will be taken for alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Media Samples:	6 – paint sample on floor	Paint samples will be collected by the Analytical Projects Organization (APO). Collect pre and post total and removable surface activity measurements for alpha and beta/gamma contamination at each media sample location. Surveys of the area will be taken in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Volumetric Samples:	None	None

8/26, RØ

25

Survey Area: Group A	**Survey Unit:** Not Applicable	**Building:** 709
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

Surface Contamination and Media Sampling Instructions

1. RCT - For all Total surveys, utilize the NE Electra radiation detection instrument.
2. RCT – Obtain pre-media sampling 100cm^2 total measurements at each sample location (within the sample area) per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
3. RCT – Obtain pre-media sampling 100cm^2 removable swipes at each sample location (within the sample area) *per 3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*[1]
4. Media Sampler (APO) – Using an appropriate sampling tool, remove the surface material to a depth sufficient to expose the base material over the entire sample area.
5. Media Sampler (APO) – Repeat the above steps at each designated sample location.
6. Media Sampler (APO) – Disposition samples per APO Request Form requirements.
7. RCT – Obtain a post-media sampling 100cm^2 total measurement at each labeled sample location (within the marked sample area) per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
8. RCT – Obtain a post-media sampling 100cm^2 removable swipe at each labeled sample location (within the marked sample area) per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
9. RCT – Obtain scan measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
10. RCT – Obtain the remaining representative removable and total surface activity measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Obtain total measurements first.
11. RCT – Obtain remaining removable and total surface activity measurements for equipment per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* A representative survey of exposed surfaces of equipment will be performed. Obtain total measurements first.
12. RCT – Analyze swipes and record results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the swipe results to the survey package.
13. RCT – Record all scan survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the scan results to the survey package.
14. RCT – Record all total survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the total results to the survey package.
15. RCT Foreman – Review the final survey package for completeness, complete the attached Survey Signature Sheet and forward the survey package to Building Radiological Engineering for final disposition.

Footnote(s):

1. Prior to obtaining media samples, the sample location should be verified to be free of removable surface activity. If the surface contains removable contamination, then the surface shall be decontaminated prior to media sampling.

9/26, RP

Survey Area: Group A	Survey Unit: Not Applicable	Building: 910
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SURVEY PACKAGE COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☐ _____

Special Support Requirements

Media Samplers to obtain paint samples of floor.

Special Safety Precautions

Per 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

Not Applicable

Survey Package Implementation

This survey package is ready for implementation.

R.S. Roberts	[redacted]		3/15/99
Radiological Engineer Printed Name		Radiological Engineer Signature	Date
GARY D GUINN		Gary D Guinn	3/15/99
RE Peer Review Printed Name		RE Peer Review Signature	Date

Survey Package Closure

All required reviews are complete, and data analysis results meet RLCP criteria. Survey package is authorized for closure.

Radiological Engineer Printed Name	Employee #	Radiological Engineer Signature	Date
RE Manager Printed Name	Employee #	RE Manager Signature	Date

87

10/26, RØ

Survey Area: Group A	**Survey Unit:** Not Applicable	**Building:** 910
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SAMPLING AND SURVEY INSTRUCTIONS

Minimum Survey & Sample Measurement Requirements		
Measurement	**Amount & Type**	**Comments**
Surface Activity Measurements:	60 –surveys on the floor and walls < 2 meters on interior building surfaces. 20 –surveys on the ceiling and walls > 2 meters on interior building surfaces. 30 –surveys on equipment present on the floor and walls < 2 meters in the interior of the building. 30 –surveys on equipment present > 2 meters high in the interior of the building. 30 –surveys on exterior walls and roof of the building.	Representative surveys of the area will be taken for total and removable, alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Surface Scanning:	60 – scan surveys on the floor and walls < 2 meters on interior building surfaces.	A 1 m^2 scan surveys will be performed at each location where total and removable surveys are being taken. Scan surveys of the area will be taken for alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Media Samples:	20 – paint sample on interior floor 10 – paint samples on exterior walls and roof	Paint samples will be collected by the Analytical Projects Organization (APO). Collect pre and post total and removable surface activity measurements for alpha and beta/gamma contamination at each media sample location. Surveys of the area will be taken in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Volumetric Samples:	None	None

38

11/26, RP

Survey Area: Group A	**Survey Unit:** Not Applicable	**Building:** 910
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

Surface Contamination and Media Sampling Instructions

1. RCT - For all Total surveys, utilize the NE Electra radiation detection instrument.
2. RCT – Obtain pre-media sampling 100cm^2 total measurements at each sample location (within the sample area) per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
3. RCT – Obtain pre-media sampling 100cm^2 removable swipes at each sample location (within the sample area) *per 3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*[1]
4. Media Sampler (APO) – Using an appropriate sampling tool, remove the surface material to a depth sufficient to expose the base material over the entire sample area.
5. Media Sampler (APO) – Repeat the above steps at each designated sample location.
6. Media Sampler (APO) – Disposition samples per APO Request Form requirements.
7. RCT – Obtain a post-media sampling 100cm^2 total measurement at each labeled sample location (within the marked sample area) per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
8. RCT – Obtain a post-media sampling 100cm^2 removable swipe at each labeled sample location (within the marked sample area) per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
9. RCT – Obtain scan measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.*
10. RCT – Obtain the remaining representative removable and total surface activity measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Obtain total measurements first.
11. RCT – Obtain remaining removable and total surface activity measurements for equipment per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* A representative survey of exposed surfaces of equipment will be performed. Obtain total measurements first.
12. RCT – Analyze swipes and record results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the swipe results to the survey package.
13. RCT – Record all scan survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the scan results to the survey package.
14. RCT – Record all total survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements.* Attach the total results to the survey package.
15. RCT Foreman – Review the final survey package for completeness, complete the attached Survey Signature Sheet and forward the survey package to Building Radiological Engineering for final disposition.

Footnote(s):

1. Prior to obtaining media samples, the sample location should be verified to be free of removable surface activity. If the surface contains removable contamination, then the surface shall be decontaminated prior to media sampling.

12/26, RØ

Survey Area: Group A	Survey Unit: Not Applicable	Building: 904 Pad, tent 7
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SURVEY PACKAGE COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☐ _____

Special Support Requirements

Not Applicable

Special Safety Precautions

Per 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

Not Applicable

Survey Package Implementation

This survey package is ready for implementation.

R.S. Roberts	[redacted]		3/15/99
Radiological Engineer Printed Name		Radiological Engineer Signature	Date
Gary D. Gunn		Gary D. Gunn	3/15/99
RE Peer Review Printed Name		RE Peer Review Signature	Date

Survey Package Closure

All required reviews are complete, and data analysis results meet RLCP criteria. Survey package is authorized for closure.

Radiological Engineer Printed Name	Employee #	Radiological Engineer Signature	Date
RE Manager Printed Name	Employee #	RE Manager Signature	Date

90

13/26, RO

Survey Area: Group A	Survey Unit: Not Applicable	Building: 904 Pad, tent 7
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SAMPLING AND SURVEY INSTRUCTIONS

Minimum Survey & Sample Measurement Requirements

Measurement	Amount & Type	Comments
Surface Activity Measurements:	30 –surveys on the floor and walls < 2 meters on interior building surfaces. 10 –surveys on the ceiling and walls > 2 meters on interior building surfaces. 30 –surveys on exterior walls and roof of the building.	Representative surveys of the area will be taken for total and removable, alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Surface Scanning:	30 – scan surveys on the floor and walls < 2 meters on interior building surfaces.	A 1 m^2 scan surveys will be performed at each location where total and removable surveys are being taken. Scan surveys of the area will be taken for alpha and beta contamination in accordance with 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements." The RCT will document the locations of all surveys performed.
Media Samples:	None	None
Volumetric Samples:	None	None

Surface Contamination and Media Sampling Instructions

1. RCT - For all Total surveys, utilize the NE Electra radiation detection instrument.
2. RCT – Obtain scan measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements*.
3. RCT – Obtain the representative removable and total surface activity measurements on building surfaces per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements*. Obtain total measurements first.
4. RCT – Analyze swipes and record results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements*. Attach the swipe results to the survey package.
5. RCT – Record all scan survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements*. Attach the scan results to the survey package.
6. RCT – Record all total survey results per *3-PRO-165-RSP 07.02, Contamination Monitoring Requirements*. Attach the total results to the survey package.
7. RCT Foreman – Review the final survey package for completeness, complete the attached Survey Signature Sheet and forward the survey package to Building Radiological Engineering for final disposition.

Survey Area: Group A	Survey Unit: Not Applicable	Building: 904 Pad, tent 8
Survey Unit Description: Reconnaissance Level Characterization Survey/Sample requirements.		

SURVEY PACKAGE COVER SHEET

Building Information

Classification: Type 1 ☐ Type 2 ☒ Type 3 ☐

Contaminants of Concern: Plutonium ☒ Uranium ☒ Other ☐ _____

Special Support Requirements

Not Applicable

Special Safety Precautions

Per 3-PRO-165-RSP-07.02, "Contamination Monitoring Requirements"

Labeling Requirements

Not Applicable

Survey Package Implementation

This survey package is ready for implementation.

R.S. Roberts	[redacted]		3/15/99
Radiological Engineer Printed Name		Radiological Engineer Signature	Date
GARY D GUINN		Gary D Guinn	3/15/99
RE Peer Review Printed Name		RE Peer Review Signature	Date

Survey Package Closure

All required reviews are complete, and data analysis results meet RLCP criteria. Survey package is authorized for closure.

Radiological Engineer Printed Name	Employee #	Radiological Engineer Signature	Date
RE Manager Printed Name	Employee #	RE Manager Signature	Date

[redacted]

92/92

15/26, RØ